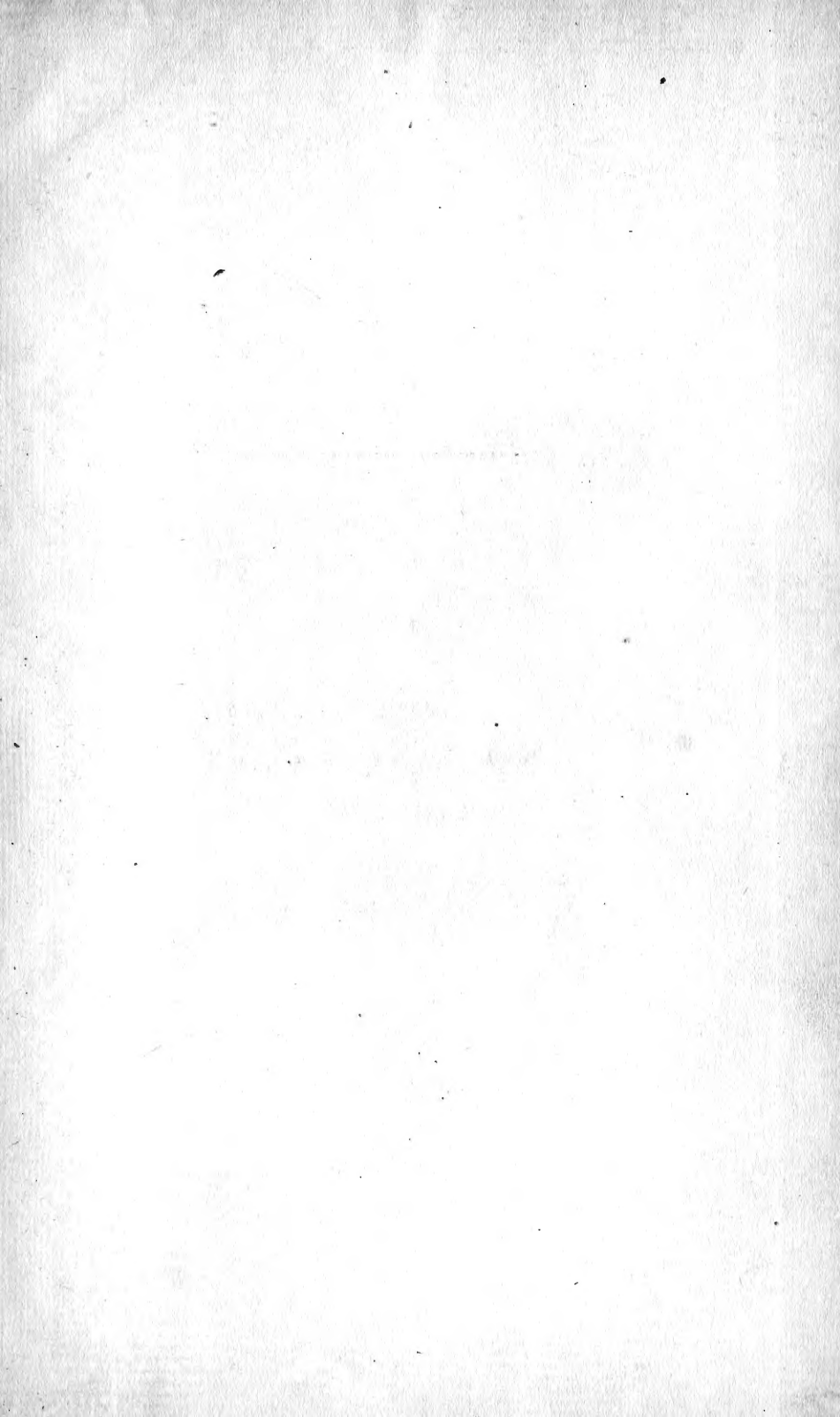
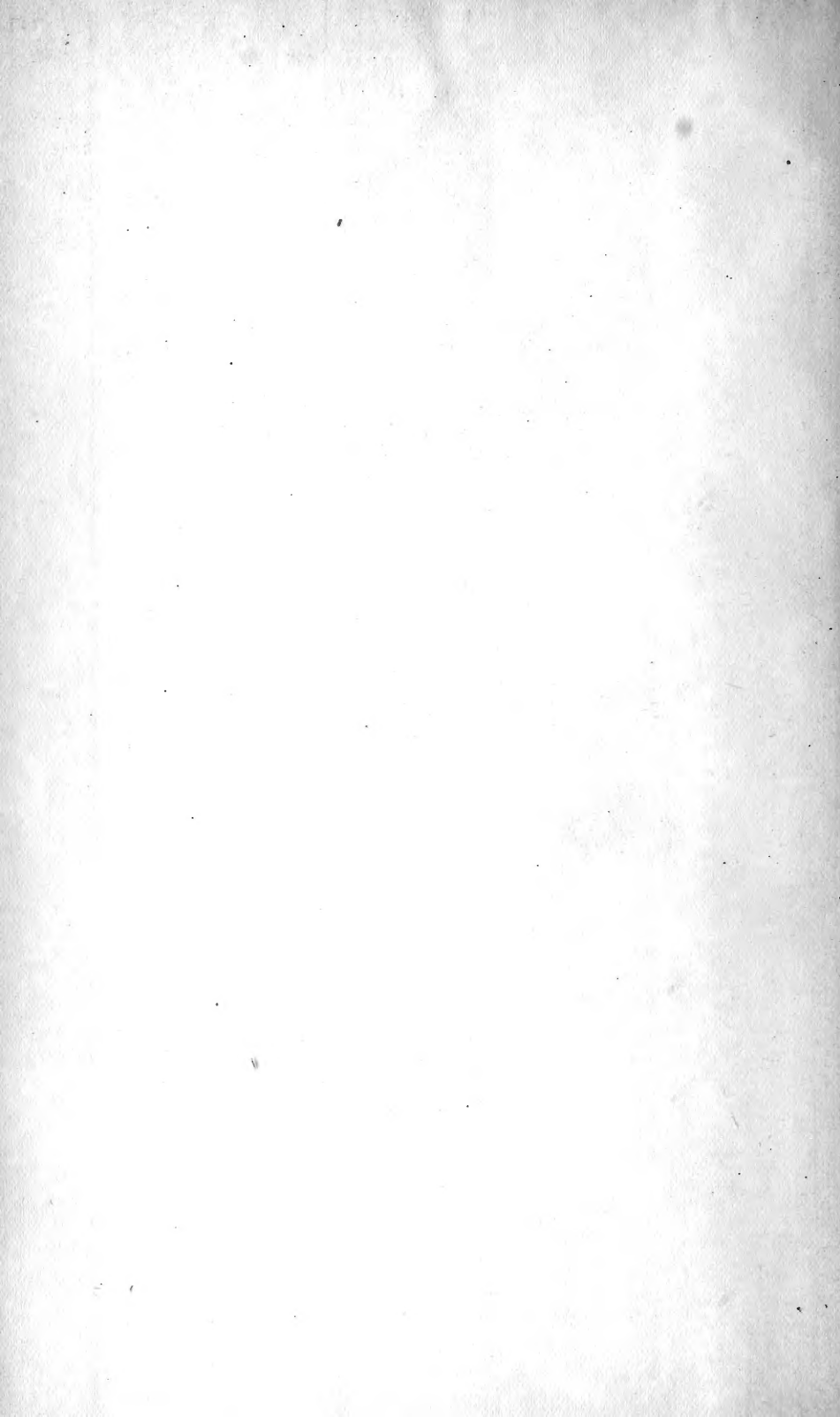


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FOUNDED BY THE LATE

Prof. H. SCHLEGEL,

CONTINUED BY

Dr. F. A. JENTINK,

Director of the Museum.

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**VOL. XV.**  
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E. J. BRILL.
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N^o 3 — July 1893, Note XXIII—XXXVIII.

N^o 4 — October 1893, Note XXXIX—XLV.

NOTE I.

DESCRIPTIONS OF NEW SPECIES OF THE LONGICORN GENUS GLENEA

BY

C. RITSEMA Cz.

(Plate 1).

Glenea affinis, n. sp. ♂ and ♀.

Belonging to the group of *Glenea Delia* Thoms., *Clytia* Thoms. and *chalybaea* Illig. (= *picta* Weber and Fabr.) which group is sufficiently characterized by the obsolete shoulders.

The new species is very closely allied to and strongly resembles *Glenea Delia* Thoms. of which I have three type-specimens (from Java) before me, but is at once distinguished by the fulvous posterior tarsi and the similarly colored apex of the posterior tibiae, which in *Delia* are blue-black. Moreover in *affinis* the white stripes are narrower and the white spots smaller than in *Delia* which gives the insect a much darker appearance. Finally the sides of the thorax in *affinis* are more parallel in consequence of the less divergent basal angles.

A male (measuring 19,5 mm.) and a female (measuring 24,5 mm.) from Koetei (Borneo), collected by Carl Bock, in the collection of Mr. René Oberthür.

I think the four above quoted species may easily be identified by the aid of the following key:

SHOULDERS OBSOLETE.

Base of each elytron with two white longitudinal stripes.

Posterior tarsi blue-black; white stripes

broad, the spots large. . . . *Delia* Thoms.

Notes from the Leyden Museum, Vol. XV.

- Posterior tarsi fulvous; white stripes
 narrow, the spots small *affinis* Rits.
 Base of each elytron with one white longitudinal stripe.
 Posterior tarsi blue-black. *chalybaea* Illig.
 Posterior tarsi fulvous. *Clytia* Thoms.¹⁾

Together with Thomson's types of *Glenea Delia* and *Clytia* (species with obsolete shoulders), Mr. René Oberthür forwarded to me the types of some other Thomsonian species which are closely allied to *Glenea elegans* Oliv. and bear a close resemblance to the representatives of the former group as to color and pattern but which have the shoulders more or less strongly prominent. These species are: *corona* Thoms. from the Nicobar islands, *Beatrix* Thoms. from the Philippine islands, *Hygia* Thoms. from Buru ²⁾, *Parthenope* Thoms. from New Guinea, and *Venus* Thoms. from Batchian ³⁾ and, moreover, an undescribed species from North Celebes (*Glenea celebensis* Rits.).

I have used this opportunity for making the following key to distinguish the above named species:

SHOULDERS PROMINENT: ROUNDED OR ANGULAR.

Shoulders rounded, posterior tarsi blue-black.

Base of each elytron with a white longitudinal stripe which touches the basal margin and is followed by five spots: ∴ *corona* Thoms.

1) This species, of which the type-specimen, from Malasia (Malacca), most courteously has been communicated to me by Mr. René Oberthür, is most probably the *Glenea Delia*, from Sarawak, of Pascoe's "Longicornia Malayana". Specimens originating from Nias have been distributed by me with the manuscript name of *Glenea Illigeri* Rits. The species occurs also in West-Sumatra (Siboga and Padang Sidempoean).

2) Moreover known from New Guinea (Amberbaki, Mansinam, Andai and Doreh).

3) Moreover known from Halmaheira, Ternate, Morotai, Waigeou, Kajoa, Makian and New Guinea (Amberbaki).

Base of each elytron with a white spot which does not touch the basal margin and is followed by five spots: ∴.

The white lines on the face abbreviated and nearly parallel, no white stripes on the occiput, the central vitta on the pronotum widely interrupted in the middle. *Beatrice* Thoms.

The white lines on the face continuous and convergent, four white stripes on the occiput, the central vitta on the pronotum entire. *elegans* Oliv.¹⁾

Shoulders angular, base of each elytron with a white spot which does not touch the basal margin; posterior tarsi blue-black or fulvous.

Posterior tarsi blue-black.

The three white vittae on the pronotum broad, subcontiguous at the base, four white stripes on the occiput *celebensis* Rits.

The three white vittae on the pronotum narrow, the central one often interrupted in the middle, the broader lateral ones irregular; only two white stripes on the middle of the occiput. *Hygia* Thoms. ♀.
(= *Parthenope* Thoms. ♂).

Posterior tarsi fulvous; (the shoulders strongly angular) *Venus* Thoms.

Glenea celebensis, n. sp. ♂ and ♀.

Length of a male specimen 20 mm., breadth at the shoulders 5 mm.; length of the female (four examples) 25—26,5 mm., breadth at the shoulders 7—7,5 mm.

1) Known from Amboyna, Buru, Batchian and Ceram.

This species strongly resembles *Glenea elegans* Oliv. (= *picta* Pascoe ¹⁾ nec Weber and Fabricius) and *Venus* Thoms., and is intermediate between them on account of the shape of its shoulders, these being not so broadly rounded as in *elegans* nor so acutely prominent as in *Venus*. It differs moreover from the latter by its dark colored (not fulvous) posterior tarsi and from both by the broadness of the three white vittae on the pronotum, which are almost contiguous at the basal margin.

The head agrees with that of *elegans* and *Venus* in having two convergent white lines which are widely separated at their origin (the base of the clypeus) but closely approximated and nearly parallel between the upper lobes of the eyes and on the vertex, a lateral stripe behind the insertion of the antennae, and a transverse broader stripe at some distance from the base of the mandibles. A few large and deep punctures are present on the face and on the vertex. The three basal joints of the antennae are dark steel-blue and nitid, the remainder dull black.

The prothorax is subcylindrical, being slightly narrowed in straight lines towards the front margin; the three white vittae on the disk are considerably broader than in the two allied species and widen out at the base so as to become here subcontiguous; the stripe immediately above the anterior and middle coxae is likewise conspicuously broader. The scutellum is somewhat elongate triangular with curvilinear sides and rounded apex; it is entirely covered with a dense white pubescence.

The elytra are at the base much broader than the thorax; the shoulders are angular (though not so acutely as in *Venus*) and strongly directed backwards; the white markings agree in number and disposition with those of *Venus* and *elegans* (see Pascoe's figure of the presumed *Glenea picta* of Fabricius, in „*Longicornia Malayana*” l. c.), and the punctuation and truncation of the elytra is likewise similar.

1) *Longicornia Malayana*, p. 373; pl. 17, fig. 6.

The sides of the metasternum and the posterior half of the ventral segments are densely covered with a white pubescence which is, however, interrupted along the middle of the abdomen ¹). The legs are steel-blue and covered with a greyish pile.

Hab. North Celebes. — A female specimen from Gorontalo (von Rosenberg) in the Leyden Museum, and three females and a male, all from Menado, in the collection of Mr. René Oberthür.

Glenea bisbiguttata, n. sp. ♀.

(Plate 1, fig. 1).

Length 24 mm., breadth at the shoulders 7 mm. — Dark steel-blue, covered with a black velvety pubescence and provided with markings of short white hairs.

The head is provided on the face with two white stripes, bordering the inner orbits and joining the base of the clypeus; moreover with a transverse white stripe at the sides of the head a little above the base of the mandibles and with four white stripes on the vertex: two approximate ones in the middle, joining the orbital stripes in front of the antennary tubers and reaching to the front margin of the prothorax, and two laterally behind the insertion of the antennae. The basal joints of the antennae are greenish blue and subnitid, the remainder dull black. On the face some large and deeply impressed punctures are present.

The prothorax is much narrower than the base of the elytra, subcylindrical, being almost inconspicuously narrowed in straight lines towards the front margin; the disk is provided with a white stripe along the middle and with another somewhat broader and slightly curved one laterally; moreover a white vitta is present immediately above

1) In the female specimen from Gorontalo (Leyden Museum) the white lateral stripes of the ventral segments are subinterrupted in the middle.

the anterior and middle coxae. The scutellum is elongate triangular, narrowly notched at the tip and covered (the lateral margins excepted) with a dense white pubescence.

The elytra, which are much broader at the base than the thorax, are constricted in a rather strongly curved line behind the shoulders which are prominent, rounded and directed backwards; the apices are broadly and somewhat obliquely emarginate and provided with four spines: the external ones stout, the sutural ones small; the disk of the elytra is covered with large and deep punctures which are however absent from the apical portion; on the deflexed lateral portions the punctures are arranged in two regular rows which are separated by the smooth keel. Each elytron is provided with the following white markings: a very small longitudinal spot at the base, midway between the scutellum and the shoulder, an ante-apical transverse spot, two contiguous ovate spots on the middle of the basal half, of which the outermost touches the bordering keel of the deflexed portion, and a little behind the middle of the length two similar spots which are approximate but not contiguous, and of which the innermost (approaching the suture and being somewhat oblique) is placed nearer to the middle of the length than the outermost which touches the bordering keel.

The sides of the metasternum and of the abdomen have spots of a dense white pubescence. The legs are steel-blue and covered with a greyish pile.

Hab. New Guinea: Island of Misore. — A single female specimen in the collection of Mr. René Oberthür.

Glenea nivea, n. sp. ♀.

(Plate 1, fig. 2).

Length 25 mm., breadth at the shoulders 6.5 mm. — Easily recognizable by its being almost entirely covered with a dense whitish pubescence. — Metallic blue, with a strong purplish gloss on the elytra.

Notes from the Leyden Museum, Vol. XV.

The head is provided on the face with two white stripes bordering the inner orbits and joining the base of the clypeus, moreover with a transverse white stripe at the sides of the head a little above the base of the mandibles, and with four white stripes on the vertex: two in the middle, closely approximate, beginning in front of the antennary-tubers and reaching to the front margin of the prothorax, and two laterally, beyond the insertion of the antennae; the mandibles are covered on the outside with a white pubescence. The three basal joints of the antennae are bluish black and nitid, the remaining joints dull black. The face and the vertex have a few large and deep punctures.

The prothorax is slightly shorter than broad at the base, subcylindrical, the basal angles being but faintly divergent; a fine raised line runs along the middle of the disk; the pronotum is covered with a dense white pubescence, with the exception of two approximate elongate ovate slightly divergent basal spots whereupon a black pubescence occurs. The sides are smooth and glossy, impunctate, and immediately above the anterior and intermediate coxae a broad band of a dense white pubescence is present. The scutellum is triangular, with curvilinear sides and rounded tip, and entirely covered with a very dense white pubescence.

The elytra, which are much broader at the base than the thorax, are narrowing in faintly curved lines behind the shoulders which are slightly prominent with rounded angles; the apices are broadly and somewhat obliquely emarginate and provided with four spines: the external ones stout, the sutural ones small. The elytra are densely covered with a white pubescence which, however, leaves free a longitudinal humeral streak, a transverse streak immediately before the apical emargination of which the margin is fringed with white hairs, and the keels and outer margin of the deflexed lateral portions of the elytra. The punctuation with which the elytra are covered is partly concealed by the pubescence.

The sides of the metasternum and the posterior half of the ventral segments are covered with a dense white pubescence, which is, however, interrupted along the middle of the abdomen. The legs are steel-blue with green tinges especially on the forelegs; they are covered with a greyish pile.

Hab. New Guinea: Mount Arfak. — A single female specimen in the collection of Mr. René Oberthür.

Glenea similis, n. sp. ♂.

(Plate 1, fig. 3).

Length 19,5 mm., breadth at the shoulders 5,25 mm. — Strongly resembling the Javanese *Glenea Delia* Thoms. and agreeing with it as to color and markings, but the white stripes broader and the spots larger. It is however at once distinguished by its strongly prominent shoulders which are obsolete in *Delia*.

The color of the derm is steel-blue with faint green tinges on the legs. The head is covered all over with a white pubescence, with the exception of a bare spot beyond the middle of the eyes, and of two stripes and a mesial line on the vertex. The face and vertex are sparingly punctured. The three basal joints of the antennae are dark steel-blue and subnitid, the remainder dull black.

The prothorax is subcylindrical, its basal angles being but slightly divergent. The disk is sparingly punctured and provided with three broad white vittae of which the lateral ones widen out towards the anterior and basal margins which makes them narrower in the middle; these vittae are united by a white pubescence along the front margin, whereas they are subcontiguous at the base; the central vitta shows a fine raised line along the middle; immediately above the anterior and middle coxae a broad white vitta is present. The scutellum is somewhat elongate triangular with curvilinear sides and rounded tip; it is covered all over with a dense white pubescence.

Notes from the Leyden Museum, Vol. XV.

The elytra, which are much broader at the base than the thorax, are constricted in a curved line behind the shoulders which are prominent and strongly directed backwards; the apices are broadly truncated in a very oblique direction and provided with four spines: the external ones stout, the sutural ones small; the disk of the elytra is covered with large and deep punctures which disappear however towards the end; on the deflexed lateral portions the punctures are arranged in two rows, which are separated by the smooth keel. Each elytron is provided with the following white markings: a small spot at the extreme base just below the shoulder, two basal longitudinal stripes of which the innermost only touches the basal margin, a round spot quite at the middle of the length and placed closer to the suture than to the lateral keel; just behind this spot two elongate ovate smaller spots, one (the smallest) touching the suture and placed somewhat more backwards, the other (the largest) touching the lateral keel, and, posteriorly, a transverse oblique ante-apical spot, whereas finally a white pubescence is present along the suture and in the upper furrow of the deflexed portion.

The under surface is covered with a dense white pubescence, the legs with a thin greyish pile.

Hab. New Guinea: Island of Misore. — A single male specimen in the collection of Mr. René Oberthür.

Glenea Hasselti, n. sp. ♂ and ♀.

(Plate 1, fig. 4) ¹⁾.

Length of the female 21,5—27 mm., breadth at the shoulders 6,25—8 mm.; length of the male 20—22 mm., breadth at the shoulders 6—6,5 mm.

Closely allied to *Glenea Juno* Thoms. of which I have

1) Fig. 5 represents *Glenea florënsis* Rits. ♀, from Flores (Notes Leyd. Mus. XIV, 1892, p. 221).

Fig. 6 represents *Glenea Oberthüri* Rits. ♀, from East Java (Notes Leyd. Mus. XIV, 1892, p. 222).

two type-specimens from the collection of Mr. René Oberthür before me, and agreeing with it in form and in the disposition and shape of the pattern, but at once distinguished by the orange-brown color of the hairy spots on the thorax and elytra, which spots are chalky white in *Glenea Juno*.

Dark violet-blue. The face with two white lines beginning at the base of the clypeus, bordering the inner orbits and disappearing in the emargination of the eyes; moreover a transverse white stripe is present at the sides of the head a little above the base of the mandibles. The head is covered with large and deep punctures on the face between the white lines and on the vertex, which latter is dull black with two slightly divergent smooth lines; beneath and behind the eyes the head is glossy and impunctate. The three basal joints of the antennae are glossy dark blue, the remainder joints dull black in consequence of the covering pile.

The pronotum is provided on each side of the base with a broad triangular spot of orange-brown hairs, which spots are nearly contiguous in front of the scutellum; in fresh specimens these spots are narrowly prolonged to the front margin of the thorax and even continued on the head; a stripe of whitish hairs is present just above the anterior coxae. The prothorax is somewhat longer than broad, subcylindrical, slightly narrowing in straight lines from the bisinuate base to the straight front margin; the disk is irregularly covered with large and deep punctures, which leave however a raised line along the middle free; the sides are smooth, nearly impunctate. The scutellum is elongate triangular with narrowly rounded tip, broadly impressed along the middle and provided on the tip with a white pubescence.

The elytra are provided on the middle with a cross-shaped figure of orange-brown hairs, which figure is common to both elytra and divided by the suture; the longitudinal stripe is narrow, the transverse one broad, and the entire figure is broadly surrounded with a black velvety pubes-

cence; just before the middle of the apical half of each elytron a small round orange-brown spot is present, touching the lateral carina and situated in a longitudinal impression which is filled with a black velvety pubescence; at some distance before the apex an oblique spot of a white pubescence may be observed and the truncation of the elytra is bordered with white¹). The elytra, which are much broader at the base than the thorax, are slightly constricted in a curved line just behind the shoulders which makes the latter somewhat acutely prominent; the anterior margin of the shoulders is straight and obliquely directed backwards; the apices of the elytra are broadly and somewhat obliquely emarginate and provided with four spines: the external ones stout, the sutural ones small. The disk of the elytra is densely covered with very large and deep punctures which disappear however posteriorly. On the deflexed sides the punctures are arranged in two regular rows which are separated by the smooth keel.

The episterna have a pale orange-brown pubescence, and the ventral segments are bordered with white posteriorly. The legs are glabrous, the tarsi thinly covered with a greyish pile.

The male differs from the female sex, from which the above description is derived, besides by the sexual characters of the abdomen and the smaller size and narrower shape, by the want of the triangular orange-brown basal spots on the pronotum.

Hab. The island of Nias and West-Sumatra. — A few specimens originating from the first quoted locality have been presented to the Leyden Museum by Messrs. A. L. van Hasselt and J. D. Pasteur, whereas I have seen specimens from Mr. René Oberthür's collection which are said to come from West-Sumatra.

1) The two small pubescent spots which in *Glenea Juno* are present on the middle of the basal half of each elytron are wanting in *Hasselti*.

SYNONYMICAL REMARKS.

1. *Glenea chalybaea* Illig. 1800 = *picta* Weber and Fabr. 1801.
2. „ *Clytia* Thoms. 1879 = *Delia* Pasc. 1867 (nec Thoms. 1860).
3. *Glenea elegans* Oliv. 1795 = *picta* Pasc. part. 1867¹⁾ (nec Weber and Fabr. 1801).
4. „ *Hygia* Thoms. ♀, 1879 = *Parthenope* Thoms. ♂, 1879.
5. „ *Thétis* Thoms. 1879 = *rufipes* Lansb. M.S. (The latter is a variety, likewise from Borneo, with partly red colored legs).
6. „ *voluptuosa* Thoms. ♀, 1860 = *Cybele* Thoms. ♂, 1865. (Of this species the Leyden Museum possesses a. o. a male specimen of a variety with partly red colored legs, originating from East Sumatra (Serdang) and presented by Dr. B. Hagen).
7. „ *Diana* Thoms. 1865 = *bimaculiceps* Gahan, 1889, as is noticed by Mr. Gahan himself on a label attached to Thomson's type-specimen.

Leyden Museum, June 1892.

1) Judging from the localities mentioned by Pascoe (*Longicornia Malayana*, pp. 373—375) I believe his *Glenea picta*, *elegans* and *nympha* to be composed of *Glenea elegans* Oliv., *celebensis* Rits., *Hygia* Thoms. and *nympha* Thoms. — As nothing is said by him of *fulvous posterior tarsi* it seems that *Glenea Venus* Thoms. was not represented amongst Mr. Pascoe's specimens.

NOTE II.

A NEW SPECIES OF THE LONGICORN GENUS
PACHYTERIA

DESCRIBED BY

C. RITSEMA Cz.

In the collection of Coleoptera, left behind by the late H. W. Bates and now in the possession of Mr. René Oberthür, the following species of *Pachyteria* were represented: *calumniata* Rits. (= *fasciata* Thoms. nec Fabr.), *ruficollis* Waterh. (= *collaris* Har.), *javana* Bates (= *puncticollis* Rits.), *affinis* Rits., *Pryeri* Rits. and, finally, an undescribed species from Borneo, which will be described in this Note.

The specimen of *Pachyteria Pryeri* Rits., a female originating, like the type-specimen, from North Borneo ¹⁾, was labelled „*basalis* Waterh.”, but this species belongs, according to the description of the apical ventral segments, to the group of *Pachyteria rugosicollis* Rits., *Hageni* Rits. and *similis* Rits. ²⁾, having in the

♂: the 5th ventral segment broadly emarginate, the 6th very deeply emarginate, the sides of the emargination parallel, — and in the

♀: the 5th ventral segment notched on each side.

In Mr. Bates' specimen, which, as is said, belongs to

1) See: Notes from the Leyden Museum, X (1888), p. 183.

2) Most probably also *speciosa* Pasc. (Proc. Zool. Soc. London, 1866, p. 519; pl. 43, fig. 5).

the female sex, the hind margin of the 5th ventral segment is, however, faintly and broadly emarginate.

The new species from Borneo, alluded to above and which I propose to call

Pachytéria Batesi,

is represented by a single female specimen and belongs to the group of *basalis* Waterh. (= *polychroma* Har.), *rugosicollis* Rits. etc. It strongly resembles *Pachytéria Hageni* Rits. from East Sumatra, but is at once distinguished from that species by its narrower shape and more slender antennae, whereas moreover a slight difference exists in the distribution of the colors on the antennae.

Length from the front margin of the inter-antennary ridge to the apex of the elytra 27 mm.; length of the elytra 20 mm., breadth at the shoulders 8 mm.; breadth across the thorax from point to point of the lateral tubercles 6 mm.

Nearly glabrous. Head dark bronze green, with an ill-defined red spot on the middle of the face and on the vertex, the sides of the labrum brown, the mandibles black; the face and inter-antennary ridge, as well as the under surface, covered with a minute pale pubescence. The four basal joints of the antennae and the base of the 5th on the inside black, the 4th joint however with a yellowish spot at the tip on the outside; the remainder part of the 5th joint and the 6th—11th joints yellow, the 3rd and 4th joints are covered with a black velvety pubescence. The prothorax dull red, the middle portion of the underside, which is covered with a pale pubescence, greenish black. The scutellum covered with a black pubescence except on the dark brown tip. The basal half of the elytra pale yellowish, the rest dark bronze green; the line of demarkation between these two colors is slightly curved backwards. Body beneath greenish black, the legs black with the exception of the posterior tibiae which are dark

brown along the middle, whereas moreover the anterior femora have a reddish brown stripe on their under surface near the base; the inner margin of the anterior tibiae is clothed with a luteous pubescence, which is also the case in *Hageni*.

Head coarsely punctured on the vertex and behind the eyes, finely on the cheeks and base of mandibles, very densely on the face and inter-antennary ridge. The frontal groove is deep and extends from between the upper lobes of the eyes down to the base of the clypeus which is indicated by a well-defined transverse groove; the clypeus itself is flat and provided at its base with a few indistinct transverse wrinkles and along its middle with an impressed line. The antennae are considerably more slender and elongate than in *Hageni*; the scape is short, rugose and provided with a smooth keel along the frontside; the 3rd joint is nearly as long as the two following joints taken together, the 4th a little shorter than the 5th, this and the two following equal in size, the 8th—10th slightly decreasing, the apical one distinctly longer.

Prothorax slightly longer than broad at the base, the sides provided with a small tubercle, the anterior and posterior margin strongly turned upwards; transversely wrinkled on the upper surface and sides; on the disk these wrinkles are irregularly confluent, so as to form small smooth spaces; the intervals are provided with large punctures. The scutellum is somewhat elongate triangular, with slightly convex sides, the tip is smooth.

The elytra taper gradually towards the end, the apices are obliquely truncate with rounded angles; each elytron with two faint longitudinal lines on the yellow portion which is less strongly punctured as in *Hageni*; the green posterior portion finely and very densely punctured on the outer half, so as to make it here opaque, much more distantly punctured and shining along the suture; the opaque streak densely covered with a short black pubescence.

The under surface of the prothorax is finely wrinkled in a transverse direction, and covered like the head behind the mouth and the mesosternum with a pale pubescence; the middle of the metasternum is glabrous and provided with a few punctures and a fine raised longitudinal line; the sides have a black pubescence in the middle, a greyish one on the front- and hindmargin. The abdominal segments are sparingly punctured and provided on each side with a transverse spot of a dense greyish pile, the 5th segment notched on each side behind.

The intercoxal part of the pro- and mesosternum formed as in the majority of the species (no tubercle with V-shaped recess).

The middle and hind femora are rugosely punctured, the anterior femora very finely.

Hab. Borneo. — A single female specimen in the collection of Mr. René Oberthür.

CORRECTION. The type-specimen of *Pachyteria Pasteuri* Rits. from Nias is not a male, as is erroneously indicated on page 213 of Vol. XIV of the »Notes», but a female.

Leyden Museum, June 1892.

NOTE III.

COLÉOPTÈRES NOUVEAUX
DES INDES ORIENTALES, DE LA FAMILLE DES
SCARABAEIDAE, RHIPIDOCERIDAE, TENEBRIONIDAE
ET OEDEMERIDAE

DÉCRITS PAR

L. FAIRMAIRE.***Scarabaeidae.****Rhyparus sumatrensis*, n. sp.

Long. 7 mill. — *R. Desjardinsii* valde similis, sed multo major et prothorace medio elytris haud angustiore; capite brevi, fere truncato, fronte breviter quadriplicato, genis ampliatis; prothorace lateribus antice fortius emarginato, dorso medio carinis duabus integris parallelis, utrinque carina post medium interrupta et carina externa integra, angulis posticis valde obtusis; elytris post medium angustatis, apice truncatulis, sutura paulo elevata, utrinque costis 3, prima magis elevata, apice bituberosa, intervallis biseriatim granuloso-punctatis; pedibus sat gracilibus, tibiis prismaticis, 4 posticis intus basi leviter sinuatis.

Hab. Sumatra. — Ma collection.

Une nouvelle espèce du genre *Rhyparus* est un fait d'autant plus intéressant qu'elle provient de Sumatra, tandis que le type est de l'île Bourbon, où notre collègue, feu Coquerel, a trouvé deux exemplaires dans la plaine des Cafres. Notre nouvelle espèce diffère de ce type, outre la taille bien plus

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forte, par la sculpture de la tête, par le corselet ayant au milieu deux carènes parallèles et par les élytres dont les carènes sont droites et égales.

Rhipidoceridae.

Homoeorhipis bicolor, n. sp.

Long. 12 mill. — Rufo-aurantiaca, vix nitidula, elytris nigris, nitidis, vage cœrulescentibus, capite nigro, summo, clypeo et ore exceptis, antennis pedibusque nigris, femoribus exceptis, unguibus rufo-piceis; capite dense sat subtiliter rugoso, summo medio obsolete foveolato, inter oculos transversim impresso, antennis opacis, articulo 1° nitidulo, rugosulo, medium corporis attingentibus, articulis elongatis, sat breviter flabellatis, flabellis æqualibus, articulis vix duplo longioribus; prothorace basi elytris haud angustiore, a basi antice attenuato, lateribus fere rectis, dorso antice valde convexo, sat subtiliter dense rugoso-punctato, antice medio obsoletissime sulcatulo, postice utrinque sat profunde impresso, margine postico utrinque sinuato, medio fere lobato-truncato et levissime incrassato, angulis posticis subacutis; scutello fere rotundato, depresso, aurantiaco; elytris sat elongatis, apice obtuse rotundatis, sutura et utrinque costis 4 elevatis, basi depressiusculis, intervallis punctis grossis transversis dense biseriatis, costis 2 et 3 ante apicem conjunctis; subtus dense subtiliter rugosulo-punctulata, fulvo-pubescent, tibiis rugosis, 4 primis extus subtiliter denticulatis, fusco-setosulis.

Hab. Ins. Nias (J. D. Pasteur). — Un seul exemplaire ♂ du Musée de Leide.

Diffère de l'*H. mesomelaena* par la coloration des pattes et des élytres, par ces dernières ayant de fortes côtes saillantes, par le corselet n'ayant qu'une impression de chaque côté, sans sillon médian, le bord postérieur tronqué au milieu et par les antennes à flabelles courtes.

Simianus cribripennis, n. sp.

Long. 13 mill. — Elongatus, sat convexus, rufo-casta-

nescens, vix nitidulus, fulvido-pubescent; capite rufo, sat parvo, dense subtiliter punctato-rugosulo, medio oblonge impresso, oculis valde distantibus, subglobosis, subtiliter granulatis, antennis piceis, articulo 1° rufo, gracilibus, flabellis elongatis, medium elytrorum vix superantibus; prothorace fere trapeziformi, elytris haud angustiore, antice leviter attenuato, lateribus fere rectis, ad angulos anticos tantum breviter rotundatis, dorso æquali, convexo, subtiliter dense punctato, utrinque postice obsolete biimpresso, margine postico fere recto, angulis acutiusculis; scutello fere rotundato; elytris elongatis, dense seriato-punctatis, punctis subquadratis, ocellatis, intervallis transversis plicatulis, sutura et intervallis 3, 5, 7 levissime elevatis; prosterno ad marginem anticum acute bispinoso, abdomine paulo dilutius, densissime punctulato.

Hab. Bornéo (S. Müller). — Un seul exemplaire ♂ du Musée de Leide.

Distinct de ses congénères par sa coloration uniforme d'un marron roussâtre avec la tête rousse et par ses élytres obtusément arrondies à l'extrémité, couvertes de gros points serrés en séries, sans côtes un peu saillantes; les fémurs ne sont pas pubescents.

Tenebrionidae.

Bradymerus grandis, n. sp.

Long. 10 mill. — Oblongus, sat fortiter convexus, sed dorso planiusculus, fuscus, nitidus, fere metallescens; capite dense rugosulo-punctato, sutura clypeali parum impressa, margine antico obsolete sinuato, antennis piceo-rufis, gracilibus, apice paulo clavatis; prothorace valde transverso, elytris angustiore, antice et basi fere æquilato, lateribus rotundatis, basi tantum sinuatis, margine postico medio rotundatim lobato, utrinque sat fortiter sinuato, angulis posticis sat acutis, dorso dense ac fortiter asperato, basi sat fortiter marginato et læviore, angulis anticis sat productis; scutello minuto, triangulari; elytris ovatis, basi

truncatis, apice obtusis, cum sutura fortiter et acute carinatis, carina præscutellari brevissima, interstitiis concavis, clathrato-foveolatis, subtus parce punctulatus, abdomine strigoso-punctato, pedibus dense rugosis.

Hab. Java orient.: Bezoeki (Semmeling et Groen). — Deux exemplaires du Musée de Leide.

Ressemble assez au *B. granaticollis* Fairm., mais un peu plus grand, le corselet n'est pas crénelé sur les côtés, les angles antérieurs sont moins saillants, les carènes des élytres sont bien plus tranchantes, entières, et les interstices, bien plus larges, sont remplis par des fossettes peu profondes, séparées par des plis transversaux; la carène præscutellaire est courte mais bien marquée.

Bradymerus granulipennis, n. sp.

Long. 7 mill. — Oblongus, sat convexus, fuscus, indumento terreno vestitus; capite sat lato, brevi, genis angulatim dilatatis, sat dense granulato, clypeo utrinque foveato, antennis brevibus, articulis 3 ultimis dilatatis, brevibus; prothorace elytris vix angustiore, valde transverso, subquadrato, antice haud angustiore, lateribus vix arcuatis, dorso dense asperato-granuloso, margine postico leviter bisinuato, angulis omnibus fere rectis; scutello sat lato, obtuso; elytris ad humeros sat rotundatis, apice obtuso, striatulis, intervallis seriatim parum regulariter tuberculatis, alternatim paulo convexiusculis; subtus nitidior, asperulo-punctulatus, pedibus sat brevibus, femoribus crassiusculis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

La granulation assez fine et assez serrée des élytres fera reconnaître facilement cette espèce. L'unique individu est recouvert d'un enduit terreux qui disparaîtrait peut-être par un lavage malheureusement dangereux pour l'état de conservation de l'insecte.

Bradymerus aequicostatus, n. sp.

Long. 6 à 8 mill. — Oblongus, modice convexus, piceo-

fuscus, parum nitidus, subtus cum pedibus, antennis et ore piceo-rufescens; capite planato, dense subtiliter asperulopunctato, antice fere truncato, antennis basin prothoracis haud attingentibus, articulis 6 ultimis latoribus; prothorace valde transverso, elytris vix angustiore, antice vix angustato, lateribus parum arcuatis, integris aut obsoletissime undulatis, dorso sat subtiliter dense punctato-granulato, lateribus paulo marginato, angulis anticis productis, apice obtusis, posticis acute rectis; scutello subcordato, apice acutiusculo, punctulato; elytris ad humeros valde angulatis, apice obtusis, substriato-punctatis, intervallis costulatis, costulis æqualiter elevatis, 1^a 2^aque usque post medium planiusculis; subtus dense punctatus, pedibus mediocribus.

Hab. Bornéo: Moeara teweh (J. Semmelink), Sambas (J. Bosscha). — Quelques exemplaires du Musée de Leide.

Ressemble assez au *B. sublaevicollis* Fairm., des îles Viti, pour la forme générale et la sculpture des élytres, mais la sculpture du corselet est bien différente, les 6 derniers articles des antennes sont plus larges, les côtes des élytres sont plus nettes, plus saillantes, plus égales, et les stries sont plus fortement et plus également ponctuées.

Ceropria bifoveata, n. sp.

Long. 12 mill. — Ovato-elliptica, parum convexa, valde nitida, viridi-æneo-cœrulescens, prothorace maculatim purpureo micante, elytris æneo-cœrulescenti et purpureo fere tessellatis; capite sat brevi, fere indistincte punctulato, oculis antice valde approximatis, extus fere angulatim convexis, antennis fuscis, opacis, dense punctatis, valde serratis, basin prothoracis superantibus, articulo 2^o brevi, 3^o angusto, ceteris sat late triangularibus; prothorace elytrorum basi vix angustiore, longitudine duplo latiore, antice rotundatim angustato, dorso subtiliter dense punctulato, basi utrinque foveato, margine postico utrinque late sinuato, angulis posticis rectis; scutello triangulari, impressiusculo; elytris sat amplis, ovatis, striatis, striis dense

sat subtiliter punctatis, apice paulo profundioribus, intervallis vix convexiusculis; subtus fusca, vage cœrulescens, sat nitida, lævis, abdomine subtilissime striolato, tibiis anterioribus leviter arcuatis et tarsis articulis 4 primis sat dilatatis.

Hab. Bornéo (Schwaner). — Un seul exemplaire du Musée de Leide.

Ressemble à la *C. induta*, mais plus grande, plus ample, avec les couleurs plus disposées en damier, les yeux plus saillants, le corselet ayant à la base 2 fossettes bien marquées, les stries des élytres plus finement ponctuées et les tibias antérieurs légèrement arqués.

Ceropria rufofasciata, n. sp.

Long. 10 mill. — Ovata, modice convexa, nigro-fusca, nitida, elytris utrinque fasciis 2 rufis ornatis, suturam haud attingentibus, 1^a ante medium transversa, valde dentata, 2^a fere apicali, paulo obliqua; capite subtiliter punctulato, inter oculos impresso, antice transversim sulcatulo et utrinque impresso, oculis valde transversis, antice approximatis, antennis elongatis, fuscis, opacis, apicem versus paulo latioribus, articulis 6—10 fere triangularibus, 9^o et 10^o latioribus et brevioribus; prothorace elytris haud angustiore, longitudine duplo latiore, antice angustato, lateribus sat rotundatis, dorso subtiliter sat dense punctato, basi biimpresso et medio rotundatim paulo lobato; scutello valde obtuso; elytris ovatis, basi truncatis, subtiliter substriato-punctatis, intervallis planis, subtilissime sat dense punctulatis; subtus cum pedibus fuscus, nitidus, vage ænes-cens, abdomine lateribus, medio obsolete striolato, prosterno apice compresso, acuto, mesosterno antice acute excavato.

Hab. Bornéo (S. Müller). — Un seul exemplaire du Musée de Leide.

Ressemble beaucoup à la *Ceropria bifasciata* Chevr., de Bombay, mais cette dernière est bien plus oblongue, plus parallèle, avec le corselet moins court, moins impressionné

à la base, les élytres bien plus fortement striées-punctuées, à intervalles moins plans, à bande antérieure, traversant les élytres, à peine dentée, et les antennes plus courtes, à articles 4—10 transversaux.

Holamara picescens Fairm.

(Ann. Soc. Ent. Belg. 1885, C. R. p. cix).

Cet insecte, que j'ai décrit d'après des individus récoltés à Sumatra, se trouve à Java, à Bornéo et aussi en Chine, dans le Tokien. Il doit reprendre le nom de *lateralis*, sous lequel il a été décrit par Boheman, comme *Heterophaga*, dans le voyage de la frégate Eugénie.

Uloma compacta, n. sp.

Long. 9 mill. — Oblongo-ovata, modice convexa, fusco-picea, nitida; capite antice rufescente, subtilissime punctulato, vertice dense punctato, inter oculos transversim sulcato, antice transversim impresso, margine antico in-crassato; antennis rufo-piceis, brevibus, latis, articulis 5—10 transversis; prothorace transverso, sat amplo, elytris fere latiore, antice angustato, lateribus a medio arcuatis, dorso subtilissime sat dense punctato, antice haud impresso, margine postico fere recto, angulis posticis fere rectis, anticis fere rotundatis; scutello ogivali, lævi; elytris ovatis, basi truncatis, sat fortiter striatis, striis subtiliter fere obsolete punctatis, intervallis convexis, lævibus, apice magis elevatis; prosterno dense rugoso-punctato, medio lævi, carinato, metasterno lateribus tantum punctato, abdomine lateribus striolato, pedibus rufis, tibiis apice rugosis, anticiis fortiter, intermediis minus et posticis vix dentatis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Deux exemplaires du Musée de Leide.

Ressemble assez à l'*U. rufilabris*, de Sumatra, mais bien plus grande, avec le corselet plus ample, rétréci seulement en avant du milieu et les intervalles des élytres un peu plus convexes; le corps est aussi plus convexe et les pattes sont presque lisses sauf l'extrémité des tibias.

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Uloma haemorrhoea, n. sp.

Long. 7 mill. — Oblonga, subparallela, fusca, nitida, sat convexa, elytris apice sanguineo terminatis; capite sat dense punctulato, inter oculos transversim et antice arcuatim impresso, ore et antennis castaneo-rufis, his validis, apicem versus latioribus; prothorace transversim subquadrato, lateribus parallelis, antice tantum rotundatis, dorso dense parum subtiliter punctato; scutello brevi, obtuso; elytris apice obtuse rotundatis, parum profunde punctato-striatis, intervallis convexiusculis, subtiliter sat dense punctulatis; subtus cum epipleuris et pedibus piceo-rufa, dense sat fortiter punctata, tibiis interdum obscurioribus, subtiliter denticulatis.

Hab. Bornéo: Sintang. — Quatre exemplaires du Musée de Leide, présentés par M. G. Severin.

Ressemble extrêmement à l'*U. picicornis*, n'en diffère, outre la coloration de l'extrémité des élytres, que par la tête moins impressionnée, les antennes plus longues, n'ayant que les 5 derniers articles élargis et bien moins courts, le 3^e article bien plus long que le suivant au lieu d'être égal, et les tibias plus finement denticulés. Je n'ai vu que des ♀; le corselet est peut-être impressionné en avant chez les ♂.

Uloma truncata, n. sp.

Long. 10 mill. — Oblonga, parallela, convexa, picea, nitida; capite subtilissime punctato, transversim concavo et impresso, margine antico incrassato, fronte inermi, antennis latis, compressis, articulis 5—10 brevibus, transversis, ultimo fere truncato; prothorace transversim subquadrato, antice parum attenuato, dorso subtiliter sat dense punctulato, antice late truncato, angulis anticis rotundatis; scutello obtuso, lævi; elytris apice rotundatis, sat fortiter striatis, striis parum fortiter punctatis, punctis apice obsoletis, intervallis convexiusculis, subtiliter alutaceis et fere inconspicue punctulatis; subtus cum elytrorum margine angusto, pedibus et ore rufo-castanea, dense punctata,

abdomine lateribus strigosulo, tibiis omnibus extus denticulatis.

Hab. Bornéo (Diard). — Un seul exemplaire du Musée de Leide.

Cette *Uloma* est bien reconnaissable à son corselet quadrangulaire, à peine rétréci près des angles antérieurs; et largement tronqué en avant avec le rebord de la troncature un peu tranchant; la tête est assez fortement creusée en travers, épaissie au bord antérieur et les élytres sont assez brusquement déclives tout à fait à l'extrémité.

Nyctobates sanguinicus, n. sp.

Long. 15 mill. — Oblongus, postice leviter ampliatus, modice convexus, fuscus, vix nitidulus, femoribus (genubus exceptis) rubris; capite subtiliter punctulato, clypeo leviter transversim impresso, labro nitido, antennis sat validis, articulis 6 ultimis latioribus; prothorace transverso, antice angustato, lateribus postice sat abrupte sinuatis, dorso subtiliter punctato, medio longitudinaliter impresso, basi sat fortiter marginato et bisinuato, angulis posticis acutis; scutello triangulari, paulo depresso; elytris basi plicatis, ad humeros sat rotundatis, apice obtusis, fere triangularibus, dorso lineato-punctatis, intervallis planis, indistincte punctulatis; subtus nitidior, dense subtiliter punctatus, prosterno lato, mesosterno subtiliter carinulato, tibiis anterioribus medio leviter sinuatis, ante apicem fortiter angulatis, intus concavis.

Hab. Sumatra. — Ma collection.

Ressemble beaucoup au *Nyctobates gonager* Fairm., en diffère, outre la coloration des fémurs, par le corselet dont les côtés sont sinués avant la base, de manière à former un angle arrondi, et par les élytres non striées, n'ayant que des lignes de points avec les intervalles très plans.

Encyalesthus fuscatus, n. sp.

Long. 15 à 18 mill. — Oblongus, sat fortiter convexus, nigro-fuscus, nitidus; capite subtilissime punctulato, ver-

tice dense subtiliter strigosulo, sutura clypeali fortiter impressa, utrinque obliquata; antennis piceo-fuscis, basin prothoracis attingentibus ♂, parum brevioribus ♀, articulo 3° sequenti paulo longiore, 6 ultimis latioribus, ♀ magis transversis; prothorace subgloboso, lateribus antice cum angulis et margine antico rotundatis, dorso subtilissime dense punctulato, basi sat fortiter marginato et medio obsoleteissime impresso; scutello ogivali, vix punctulato; elytris ad humeros obliquatis, apice obtuse acuminatis, parum fortiter punctato-striatis, punctis postice obsolete, striis 4^a 5^aque longe ante apicem conjunctis, intervallis planiusculis, vix perspicue punctulatis; subtus subtilissime punctulatus, prosterno inter coxas sat lato et impresso, postice oblique declivi et apice angulato, femoribus sat clavatis, tarsis subtus dense rufovillosis; ♂ prosterno et tibiis apice intus dense ac longe rufovillosis.

Hab. Sumatra. — Ma collection.

C'est, jusqu'à présent, le plus grand des *Encyalesthus*, bien distinct par les tibias du ♂ revêtus à la partie interne apicale de poils roux, ainsi que le milieu du prosternum.

On trouve aux îles Andaman une autre espèce également noire :

Encyalesthus andamanus, n. sp.

Long. 18 mill. — Præcedenti simillimus, sed magis niger, nitidior et levissime cœrulescens, antennis paulo brevioribus, prothorace minus convexo, magis subquadrato, dorso paulo inæquali, grosse ac inæqualiter punctato, margine antico fere recto, lateribus vix arcuatis, basi obsolete sinuatis, medio postice obsolete striato, basi utrinque parum sinuato, angulis magis acutis, scutello impresso, elytris similiter striatis, sed striis fortius punctatis, primis profundioribus, apice præsertim, intervallis convexiusculis, apice magis elevatis, lævibus, prosterno medio rugoso, inter coxas lato, leviter utrinque striato, apice late rotundato et planato, abdomine segmentis 3 primis subtiliter

striolatis, femoribus minus crassis, tibiis glabris, anterioribus basi arcuatis.

Hab. Ins. Andaman. — Ma collection.

Encyalesthus transversicollis, n. sp.

Long. 17 mill. — Oblongus, convexus, æneus, nitidus; capite subtilissime punctulato, labro sat magno, leviter sinuato, antennis prothoracis basin haud attingentibus, articulis 6 ultimis latoribus; prothorace valde transverso, elytris parum angustiore, lateribus antice rotundatis, basi vix sensim sinuatis, dorso subtiliter et inæqualiter punctulato, lateribus marginato, basi utrinque transversim fortiter impresso, angulis posticis acutiusculis; scutello brevi, obtuso, concavo; elytris ad humeros obliquis, postice vix ampliatis, sat fortiter striatis, striis valde punctatis, intervallis lævibus, convexiusculis, postice sat fortiter convexis; subtus paulo obscurior, fere lævis, prosterno medio subtiliter rugosulo, postice lato, fere truncato, segmentis ventralibus 3 primis basi subtiliter striolatis et lateribus impressis, 3^o medio bifoveolato, tibiis 4 anticis leviter arcuatis.

Hab. Bornéo. — Ma collection.

Cette espèce est bien distincte de ses congénères par son corselet fortement transversal, bien plus large, ayant en arrière, de chaque côté, une forte impression transversale.

Encyalesthus metallescens, n. sp.

Long. 12 mill. — Oblongus, postice vix ampliatus, convexus, æneus, nitidus; capite indistincte punctulato, antice transversim profunde impresso, antennis piceis, basin prothoracis attingentibus; prothorace subgloboso, lateribus antice cum angulis et margine antico rotundatis, dorso sat fortiter convexo, subtiliter sat dense punctato, medio stria longitudinali parum impresso, basi utrinque late leviter sinuato; scutello triangulari, lævi; elytris basi et apice leviter cœruleo et aurichalceo micantibus, dorso subtiliter striolato-punctatis, intervallis planis, subtilissime dense punc-

tulatis, epipleuris cœruleis; subtus fusco-metallescens, nitidus, fere lævis, femoribus clavatis.

Hab. Sumatra; Singapore (Raffray). — Ma collection.

Ressemble assez au *brevicornis*, mais plus étroit, avec le corselet ponctué différemment, ayant au milieu une faible strie longitudinale; les élytres sont plus finement striées, mais les stries sont plus ponctuées et les intervalles plus plans, plus lisses.

Necrobioides sulcaticollis, n. sp.

Long. 13 mill. — *Encyalestho metallescenti* simillimus, sed magis æneus, prothorace angustiore, magis globoso, medio sat fortiter sulcato, lateribus haud marginato, sed basi utrinque breviter sulcato et plicatulo, scutello haud impresso, elytris unicoloribus, similiter striatis, subtus cum pedibus violaceo tinctus, lævis.

Hab. Bornéo. — Ma collection.

Cette espèce, qui ressemble extrêmement à l'*Encyalesthus metallescens*, diffère de ses deux congénères par sa taille bien plus forte et son corselet sillonné sur le disque.

Necrobioides bicolor, n. sp.

Long. 8 mill. — *N. cœruleato* simillimus, sed paulo minor et elytris aliter coloratis, aurichalceis, paulo brevioribus, striis fortius punctatis, intervallis evidentius punctulatis, subtus cum pedibus fusco-ænescens, femoribus apice cœruleatis.

Hab. Bornéo occ.: Sambah (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

Catapiestus simillimus, n. sp.

Cette nouvelle espèce ressemble extrêmement au *C. piceus* Perty, même taille, même coloration, sculpture des élytres presque semblable, mais le corselet est très différent. Au lieu d'être ponctué partout, ce sont seulement les impressions qui sont ponctuées et rugueuses, les parties convexes

sont très lisses et le disque est parcouru par un fort sillon, nettement tranché, au lieu d'un canal à bords obliques, les impressions sont plus profondes et plus nettement arrêtées; les épaules sont un peu obliques et non nettement angulées et le 7^e intervalle est un peu plus caréné. En dessous le mésosternum est plus lisse, moins impressionné, l'abdomen est bien moins ponctué, mais les premiers segments sont striolés et impressionnés, l'extrémité du 3^e et les deux derniers sont presque lisses. Les fémurs antérieurs sont tridentés en dessous avec les tibias moins fortement arqués. La coloration de cet insecte est plus noire et plus brillante.

Hab. Sumatra. — Ma collection.

On trouve aux îles Andaman une autre espèce de *Catapiestus* encore inédite:

Catapiestus piceiventris, n. sp.

Long. 11 à 14 mill. — Cet insecte est extrêmement voisin du *C. crenulicollis* Fairm., du Cambodge, en diffère par la tête plus plane, plus déprimée en avant, le corselet plus plan, plus densément ponctué, à large canal médian, la partie latérale moins convexe, le dessous du corps rougeâtre, l'abdomen plus déprimé; les fémurs antérieurs n'ont aussi qu'une très petite dent au milieu du bord inférieur; la massue des antennes est moins épaisse.

Hab. Ins. Andaman. — Ma collection.

Artactes marginicollis, n. sp.

Long. 8 mill. — *A. corrusco* simillimus, fere similiter coloratus, sed prothorace magis variegato, angulis anticis magis obtusis, capite medio haud carinulato, oculis valde distantibus, elytris minus brevibus, postice minus rotundatis, dorso fortius seriato-punctatis, punctis magis distantibus, cyaneis, purpureo fasciatis.

Hab. Sumatra. — Ma collection.

Artactes cyaneus, n. sp.

Long. 6 à 9 mill. — Rotundatus, convexus, cœruleus, nitidus, elytris limbo subtili aureo marginatis, abdomine apice pedibusque interdum viridi-aureo tinctis; capite parvo, oculis sat fortiter approximatis, sutura clypeali medio recta, utrinque sat abrupte angulata, antennis brevibus, fuscis, articulis 6 ultimis opacis, latioribus; prothorace brevissimo, antice sat emarginato, dorso subtiliter sat dense punctulato, angulis anticis valde rotundatis, margine postico ad scutellum truncato; scutello oblongo-triangulari, lævi; elytris basi late emarginatis, ad humeros producto-rotundatis, lateribus subtiliter marginatis, dorso lineato-punctatis, punctis apice tantum obsoletis, intervallis planis, lævibus, epipleuris latis, concavis; subtus subtiliter punctatus, abdomine subtiliter strigosulo.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Huit exemplaires du Musée de Leide.

Cette espèce est bien reconnaissable à sa coloration uniforme avec un fin liséré doré autour des élytres qui sont orbiculaires.

On trouve à Hongkong une espèce très voisine:

*Artactes cyaneolimbatu*s, n. sp.

Long. 8 mill. — Præcedenti sculptura et forma valde affinis, sed obscure æneus, nitidus, elytris limbo tenui cœruleo marginatis; capite inter oculos punctato et sat fortiter oblonge impresso, antennis fuscis, apice modice dilatatis, prothorace minus brevi, punctulato, angulis anticis parum rotundatis, scutello ovato, cœrulescente, elytris punctato-lineatis, lineis fere elevatis; subtus cum epipleuris et pedibus sat cœrulescens, abdomine subtiliter dense strigosulo, segmentis 2 ultimis lævibus.

Hab. Hongkong. — Ma collection.

La sculpture des élytres est la même que chez l'espèce précédente, mais les lignes ne sont nullement enfoncées et paraissent plutôt un peu relevées.

Artactes guttifer Waterh.

(Entom. Monthly Magaz. XIV, 1877, p. 73).

Long. 9 mill. — Brevissime ovatus, convexus, æneus, nitidissimus, subtus piceo-fuscus, pedibus fusco-ænescentibus; capite paulo cupreo micante, oculis valde approximatis, fronte inter oculos obsolete impressa, clypeo medio convexiusculo, sutura clypeali transversa, utrinque obsolete angulata, antennis gracilioribus, articulis ultimis haud transversis; prothorace brevissimo, lævi, angulis anticis valde rotundatis; scutello fere triangulari-ovato, medio cyaneo; elytris ad humeros sat angulatis, medio vix ampliatis, utrinque seriebus 8 punctatis, punctis profundis sed distantibus, violaceis et annulo violaceo circumdati, apice haud obsolescentibus; subtus subtiliter punctulatus.

Hab. Java (Macklot). — Un exemplaire du Musée de Leide.

Bien remarquable par les points violets des élytres qui sont entourés d'un petit anneau violet comme chez la *Chrysomela bicolor* de Sicile.

Les trois premiers articles des tarses ne sont pas aussi dilatés que chez le *nigritarsis*.

Artactes laevicollis, n. sp.

Long. 5 mill. — *A. corrusco* sat similis et fere similiter coloratus, sed capite subtilius punctulato, medio haud costulato, fronte angustiore, prothorace impunctato, elytris fortius seriato-punctatis, lateribus haud punctulatis, corpore subtus cum pedibus sat distinctus.

Hab. Sumatra (Deby). — Ma collection.

Ressemble extrêmement au *corruscus*, mais le corselet est imponctué, la tête plus finement ponctuée sans la petite ligne élevée longitudinale du vertex, le front est plus étroit, les angles postérieurs du corselet sont plus aigus, les points des séries élytrales plus gros et le prosternum est creusé longitudinalement au lieu d'avoir une strie de chaque côté.

Artactes cyaneicollis, n. sp.

Long. $6\frac{1}{2}$ mill. — *A. corrusco* valde similis, sed magis cyanescens, capite minus fortiter punctato, medio haud carinulato, margine antico leviter sinuato, prothorace similiter punctulato, sed angulis anticis minus rotundatis, elytris similiter punctato-seriatis, sed lævioribus, dorso aurulento, lateribus cœruleis, subtus cum pedibus rufus, prosterno inter coxas bistriato, sed apice latiore, mesosterno latius emarginato.

Hab. Sumatra (Deby). — Ma collection.

Artactes rutilans, n. sp.

Long. 5 mill. — Hemisphæricus, nitidissimus, capite prothoraceque cyaneis, elytris aureo-cupreolis, margine laterali cyaneo, intus cœrulescente, sutura cœrulescente, subtus cum pedibus rufus; capite dense subtiliter punctato, inter oculos transversim sulcato, antennis sat gracilibus, apice crassioribus, piceis; prothorace brevissimo, lateribus fortiter marginato-sulcato, angulis anticis rotundatis, margine postico medio rotundatim sublobato, angulis obtusis, dorso subtilissime dense punctulato; scutello minuto, triangulari, lævi; elytris punctato-seriatis, intervallis latis, planis, lævibus; subtus lævis.

Hab. Bornéo (S. Müller.) — Un seul exemplaire du Musée de Leide.

Distinct par sa petite taille, sa coloration et sa forme hémisphérique, avec les épaules moins saillantes que chez ses congénères. Les tarses antérieurs sont peu dilatés.

Artactes lepidus Waterh.

(Entom. Monthly Magaz. XIV, 1877, p. 73).

Long. 4 mill. — Breviter ovalis, convexus, supra æneus, subtus piceus; fronte leviter convexa, fere lævi, clypeo subtilissime sat crebre punctulato; thorax longitudine fere triplo latiori, antice angustato, apice emarginato, angulis anticis obtusis, posticis rotundatis, basi rotundato; scutello

parce punctulato; elytris thorace parum latioribus, regulariter striato-punctatis, punctis haud approximatis, interstitiis lævibus, lateribus leviter arcuatis, apice rotundato; antennis pedibusque piceis.

Hab. Java. — Ma collection.

Le thorax est densément mais très obsolètement ponctué, les bords sont bleus. Les élytres ont des rangées régulières de points cuivreux assez écartés; les bords réfléchis sont bleus. Les tarses antérieurs ne sont que faiblement dilatés.

Gauromaia femoralis, n. sp.

Long. 13 mill. — Oblonga, convexa, purpurina, nitida, capite paulo cœruleo tincto, subtus cum pedibus fusco-cœrulescens, femoribus ante apicem sat late rufis; capite subtiliter punctata, clypeo antice levissime sinuato, labro fere lævi, antennis fuscis, prothoracis medium superantibus; prothorace transverso, elytris angustiore, lateribus leviter arcuatis, angulis anticis sat rotundatis, dorso subtiliter punctato, disco bipunctato; scutello minuto; elytris oblongo-ovatis, ad humeros valde rotundatis, dorso punctato-substriatis, striis apice obsoletis, intervallis planatis, dense subtilissime punctulatis, suturam versus vix convexiusculis; subtus subtilissime coriaceus, abdomine dense subtiliter punctato, tarsis subtus dense rufo-villosis.

Hab. Singapore (Raffray). — Ma collection.

Forme du *dives*, mais taille plus petite et coloration des pattes bien différente.

Gauromaia semicyanea, n. sp.

Long. 9 mill. — Oblonga, convexa, nitida, capite prothoraceque cyaneis, elytris cuprino-purpureis, sutura et margine angustissime cœruleis; capite prothorace parum angustiore, sat subtiliter sat dense punctato, sutura clypeali lateribus valde impressa, labro producto, piceo, antennis fuscis, prothoracis medium haud attingentibus, articulis 5 ultimis latioribus; prothorace transverso, elytris

paulo angustiore, antice vix sensim angustiore, lateribus fere rectis, ante angulos anticos paulo arcuatis, dorso sat subtiliter sat dense punctato, lateribus et basi subtiliter marginato; scutello triangulari; elytris oblongo-ovatis, ad humeros oblique rotundatis, parum profunde striolato-punctatis, intervallis planiusculis, subtilissime coriaceis et punctulatis, striis extus et apice sat obsolescentibus; subtus cum pedibus cœruleus, nitidus, abdomine dense punctulato.

Hab. Sumatra. — Ma collection.

Forme du *dives* mais bien plus petit, de coloration un peu différente; la tête est proportionnellement plus large, plus ponctuée ainsi que le corselet qui, en outre, est plus étroit, plus finement rebordé et plus arrondi aux angles antérieurs.

Gauromaia janthina, n. sp.

Long. 8 à 10 mill. — Sat elongata, convexa, nitida, supra et pedibus cœruleo-janthina; capite prothorace parum angustiore, subtiliter punctato, labro fusco, sat producto; antennis fuscis, sat gracilibus, prothoracis basin attingentibus, articulis 7 ultimis gradatim paulo crassioribus; prothorace elytris angustiore, valde transverso, lateribus leviter arcuatis, angulis anticis sat rotundatis, dorso subtiliter dense punctato, basi transversim obsolete impresso, margine postico haud sensim utrinque sinuato; scutello triangulari, lævi; elytris oblongis, ad humeros valde rotundatis, punctato-lineatis, suturam versus vix substriatis, punctis et lineis apice obsoletis, intervallis planis, indistincte punctulatis; subtus dense punctulata.

Hab. Singapore (Raffray). — Ma collection.

Bien distincte par sa petite taille, sa forme plus étroite et sa coloration bleue en dessus.

Eucyrtus (Platycrepis) giganteus, n. sp.

Long. 24 mill. — Oblongo-ellipticus, sat convexus, nitidissimus, æneo-cupreolus, elytrorum intervallis vittula angusta sat pallide cœrulescente ornatis; capite sat lato,

brevissimo, clypeo brevi, late leviter sinuato, utrinque rotundato, epistomate declivi, transverso, picescente, labro lato, utrinque subtiliter asperato, antice medio densatim spinosulo; antennis validis, piceis, articulis 5 ultimis latis, cœrulescentibus; prothorace elytris parum angustiore, transverso, antice a medio angustato, dorso lævi, basi medio truncato, utrinque late sinuato et marginato, angulis posticis acutis, lateribus sat fortiter marginatis; scutello ogivali, polito; elytris amplis, postice vix ampliatis, sat subtiliter striatis, striis lævibus, intervallis planis, lævibus; subtus nitidus, fusco-purpurinus, cœruleo mixtus, pedibus fusco-cyaneis, purpureo tinctis, tibiis intus fulvo-villosis, femoribus 4 posticis medio et tibiis 4 posticis basi leviter arcuatis, prosterno inter coxas fortiter bisulcato, apice acuminato, tarsis latis, longe pilosis.

Hab. Sumatra. — *Ma* collection.

Cette espèce est le géant des *Platycrepis*; elle est en outre remarquable par la brièveté de la tête et par les élytres finement striées, à intervalles plans, parcourus par une étroite bande bleuâtre mal limitée.

Eucyrtus (Platycrepis) alternicolor, n. sp.

Long. 15 mill. — Oblonga, sat fortiter convexa, nitida, capite prothoraceque cœrulescentibus, cupreo mixtis, elytris longitudinaliter et alternatim cupreolis et cœrulescentibus, subtus cum pedibus fusca; capite subtiliter punctato, antice utrinque obsolete impressa, sutura clypeali obsoleta, antennis prothoracis basin fere attingentibus, articulis 6 ultimis latis, compressis, punctatis, opacis; prothorace elytris angustiore, valde transverso, antice angustato, lateribus valde marginatis, antice cum angulis fortiter rotundatis, basi vix sinuatis, dorso sat dense parum fortiter punctato, basi sat fortiter marginato et utrinque sinuato, angulis posticis acutis; scutello acute ogivali, lævi; elytris postice vix ampliatis, ad humeros rotundatis, valde convexis, striatis, striis sat tenuibus, fere lævibus aut potius vix perspicue punctulatis, intervallis fere planis, striis 2 externis

ad humeros abbreviatis; subtus cum pedibus fuscus, sat nitidus, vage metallescens, tibiis anticis arcuatis, tarsis crassis, anterioribus paulo latioribus, densius setosulis.

Hab. Sumatra. — Ma collection.

Ressemble assez au *P. latitarsis*, mais plus petit, plus oblong, plus convexe, d'une coloration assez différente, avec le corselet non impressionné à la base, les élytres à stries plus fines, à intervalles plus plans, et les tarses antérieurs moins dilatés, les 4 postérieurs seulement épaissis.

Eucyrtus trapezicollis, n. sp.

Long. 12 à 13 mill. — Oblongus, valde convexus, totus supra brunneo-æneus, metallicus; capite ante oculos brevi, dense sat subtiliter punctato, epistomate producto, ferrugineo, labro sat magno; antennis fuscis, prothoracis basin haud attingentibus, apice dilatatis, compressis; prothorace elytris haud angustiore, longitudine duplo latiore, trapeziformi, antice angustato, lateribus rectis, fortiter marginatis, angulis anticis sat productis, dorso dense sat subtiliter punctato, margine postico utrinque late sinuato, angulis sat acutis; scutello acute ogivali, polito; elytris oblongis, valde convexis, ad humeros angulatis, apice rotundatis, subtiliter striatis, striis vix impressis, vage purpurinis, apice haud oblitteratis, intervallis planissimis, lævibus; subtus fusco-purpurascens, nitidus, lateribus et abdomine subtilissime punctato, hoc lateribus impresso, pedibus fuscis, mediocribus, tarsis subtus pilosis, anticis ♂ sat dilatatis.

Hab. Java. — Ma collection.

Cet insecte présente un faciès assez différent des autres *Eucyrtus* à cause de son corselet aussi large que les élytres, à côtés droits, et de ses élytres à stries extrêmement fines. Les tarses antérieurs un peu dilatés le rapprochent du groupe des *Platycrepis*.

Eucyrtus purpurinus, n. sp.

Long. 16 mm. — Oblongo-ovatus, sat convexus, supra purpurinus, valde nitidus, capite antice et elytris viridi-

micantibus; capite subtilissime punctulato, ante oculos brevissimo, epistomate brevissimo, rufo, labro sat magno, fusco, antice ciliato; antennis fuscis, prothoracis basin haud attingentibus, articulis 6—10 latis, compressis, punctatis; prothorace sat angustato, antice sat fortiter angustato, lateribus sat fortiter marginatis, arcuatis, margine antico medio rotundato, angulis rotundatis, dorso subtiliter sat dense punctulato, basi quadriimpresso, angulis sat fortiter acutis; scutello ogivali, plano; elytris ovatis, ad humeros sat rotundatis, postice leviter ampliatis, apice sat acuminatis, dorso sat tenuiter sed sat acute striatis, striis subtilissime punctulatis, intervallis planissimis, indistincte punctulatis; subtus cœruleus, punctulatus, abdomine densissime subtiliter punctato-stri-goso, prosterno inter coxas fortiter bisulcato, pedibus cyaneis, tarsis sat crassis, subtus dense rufo-pilosis.

Hab. Java. — Ma collection.

Voisin du *splendens*, mais la tête et le corselet sont différemment colorés, ce dernier est plus étroit, plus rétréci en avant, les angles postérieurs sont plus saillants, les élytres sont bien moins angulées aux épaules, les intervalles des stries sont très plans et les antennes sont plus courtes.

Eucyrtus laticollis, n. sp.

Long. 18 mill. — *E. purpurino* valde affinis, sed paulo major, supra aurichalceus, capite prothoraceque leviter purpurino tinctis, capite similiter brevissimo, clypeo late sinuato, epistomate late distincto, rufo, labro leviter sinuato, prothorace latiore, brevior, longitudine fere duplo latiore, elytris postice paulo magis ampliatis, apice similiter acuminatis, similiter striatis, intervallis lævioribus; subtus æneus, purpurino tinctus, abdomine lævior.

Hab. Malaisie. — Ma collection.

Plus grand que le *purpurinus*, d'une coloration un peu plus bronzée, distinct par l'épistôme largement découvert et le corselet bien plus large, moins rétréci en avant.

Eucyrtus subvittatus, n. sp.

Long. 14 mill. — Oblongus, convexus, nitidus, viridicœrulescens, prothorace transversim purpureo tincto, elytris purpureo vittulatis, striis viridibus; capite subtiliter dense punctato, summo supra oculos transversim læviore, antice convexiusculo, haud impresso, nec breviter truncato, antennis fuscis, medium prothoracis vix attingentibus, articulis 6 ultimis latis, transversis, punctatis; prothorace valde transverso, elytris angustiore, lateribus sat fortiter marginatis, antice cum angulis rotundatis, dorso sat dense parum tenuiter punctato, angulis posticis acutis, fere spinosis; scutello plano, sat late ogivali, lævi; elytris modice striatis, striis lævibus, intervallis planis, lævibus; subtus cum pedibus fuscus, sat nitidus, lævis, abdomine dense subtilissime strigosulo-punctato, prosterno inter coxas concavo, pedibus modice validis, tarsis subtus rufo-villosis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

Ressemble à l'*E. pretiosus* pour la forme générale et notamment pour le corselet, mais la coloration est bien différente, les antennes sont plus courtes, les élytres sont nettement striées et les côtés du corselet ne sont pas distinctement sinués à la base.

Eucyrtus purpureotinctus, n. sp.

Long. 10 à 12 mill. — Oblongo-ellipticus, modice convexus, valde nitidus, cœruleus, elytris post basin purpureis, deinde gradatim æneo-auratis et ante apicem purpureis; capite subtiliter punctato, clypeo brevissimo, sutura profunda, epistomate fere verticali, rufescente, labro apice rufescente, antennis basin prothoracis fere attingentibus, articulis 6 ultimis latis, compressis, opacis; prothorace valde transverso, elytris paulo angustiore, antice paulo angustato, lateribus leviter rotundatis, basi sinuatis, angulis posticis sat acutis, extus paulo divaricatis, dorso subtilissime punc-

tulato, lateribus sat fortiter marginato, basi pluriimpresso, haud marginato, bisinuato; scutello ogivali, polito; elytris basi truncatis, postice leviter ampliatis, ad humeros angulatis, sat fortiter striatis, striis obsolete punctulatis, basi et apice profundioribus, tribus externis ad humerum abbreviatis, intervallis vix convexiusculis, lævibus, postice paulo magis convexis; subtus cum pedibus fusco-metallescens, sat nitidus, pedibus sat brevibus.

Hab. Bornéo (S. Müller). — Quelques exemplaires du Musée de Leide.

Cet *Eucyrtus* est moins convexe que ses congénères, et sa forme rappelle plutôt celle des *Ceropria*; le corselet est tout à fait celui des grands *Eucyrtus*.

Eucyrtus pilipes, n. sp.

Long. 15 mill. — Ovato-oblongus, postice paulo ampliatus, valde convexus, fere gibbosus, nitidissimus, vernicatus, æneo-cupreolus, capite prothoraceque purpurino leviter tinctis, elytris cœrulescenti et purpurino micantibus, striis purpurinis; capite brevi, indistincte punctulato, epistomate et labri apice ferrugineis, antennis prothoracis medium vix attingentibus, articulis 6 ultimis latis, compressis, opacis; prothorace transverso, elytris angustiore, lateribus marginatis, sat rotundatis, basi paulo sinuatis, dorso indistincte punctulato, basi pluriimpresso et utrinque sinuato, angulis posticis acutis, anticis valde obtusis; scutello acute ogivali, lævi; elytris medio valde convexis, ad humeros sat angulatis, apice conjunctim obtusis, dorso tenuiter sed acute striatis, striis basi punctulatis, intervallis planissimis, politis; subtus fusco-ænescens, nitidus, cœrulescenti tinctus, lævis, pedibus fuscis, tibiis sat longe dense brunneo-pilosis, tarsis crassis, sat brevibus, haud dilatatis.

Hab. Bornéo (S. Müller). — Un seul exemplaire du Musée de Leide.

Cet insecte est remarquable par ses élytres gibbeuses, rappelant celles des *Erotyles*, par sa coloration vernissée et ses tibias velus.

Eucyrtus multicolor, n. sp.

Long. 9 mill. — Ovatus, postice ampliatus, valde convexus, supra metallicus, æneo-viridis, capite cupreo mixto, prothorace vittis 2 transversis cupreis, elytris viridi et cupreo fere tessellatis; capite brevi, subtilissime punctulato, epistomate rufo, antennis fuscis, medium prothoracis vix superantibus, articulis 6 ultimis latis, compressis; prothorace valde transverso, elytris paulo angustiore, antice a basi angustato, lateribus parum arcuatis, marginatis, basi haud sinuata, utrinque late sinuata, angulis posticis acutiusculis, dorso subtilissime sat dense punctulato; scutello sat lato, ogivali, lævi; elytris ovatis, apice obtusis, medio valde convexis, parum profunde striatis, striis vix distincte punctulatis, apice profundioribus, 6—8 ad humeros abbreviatis, intervallis planis, lævibus; subtus fuscus, vage cœrulescens, modice nitidus, fere lævis, metapleuris dense punctatis.

Hab. Bornéo. — Ma collection.

Ressemble un peu, pour la forme générale, au *Platycrepis latitarsis* de Sumatra, mais plus petit, plus court, plus convexe, avec le corselet simplement rétréci en avant, les bords latéraux non sinués à la base, et les tarses non dilatés.

Eucyrtus truncaticeps, n. sp.

Long. 10 mill. — *E. multicolori* valde similis, sed capite prothoraceque violaceis, purpureo tinctis, elytris longius fasciolatis, nitidioribus et paulo magis purpureo-cupreo tinctis; capite ante oculos brevissimo, epistomate et labro protensis, oculis extus fortiter angulatis, antennis fuscis, prothoracis basin fere superantibus, articulis 6 ultimis latis, compressis; prothorace sat parvo, elytris angustiore, longitudine duplo latiore, antice paulo angustato, lateribus fortiter marginatis, antice cum angulis rotundatis, postice levissime sinuatis, angulis posticis paulo exsertis, dorso subtiliter sat dense punctulato, basi utrinque biimpresso;

Notes from the Leyden Museum, Vol. XV.

scutello lato, lævi; elytris sat late ovatis, postice paulo ampliatis, modice striatis, striis subtiliter punctatis, apice haud obsolescentibus, intervallis fere planis, lævibus; subtus cum pedibus fusco-cœrulescens, subtiliter punctatus, prosterno lævi, tibiis intermediis fere angulatis arcuatis.

Hab. Singapore (Raffray). — Ma collection.

Eucyrtus gibbosulus, n. sp.

Long. 5 mill. — Ovatus, valde convexus, gibbosulus, nitidus, capite prothoraceque virescenti-cœruleis, elytris basi et apice similiter coloratis, dorso paulo aurulentis et utrinque gradatim purpureis; capite subtilissime punctulato, sutura clypeali profunda arcuata, clypeo antice sinuato, cum labro rufescente, ore et antennis rufis, his apice obscurioribus, articulis 6 ultimis latoribus; prothorace elytris valde angustiore, fortiter transverso, lateribus fortiter marginatis, antice cum angulis rotundatis, basi paulo sinuatis, dorso dense punctato, postice transversim sat late impresso, basi haud marginato, angulis acutiusculis; scutello triangulari, lævi; elytris ovatis, medio valde convexus et ampliatis, apice obtusis, dorso substriato-punctatis, intervallis planis, subtilissime punctatis, 8° apice breviter subcostato; subtus cum epipleuris fusco-piceus, modice nitidus, pedibus rufis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

Cette espèce est remarquable par sa petite taille et sa forme gibbeuse un peu anormale.

Eucyrtus aurobasalis, n. sp.

Long. 7 mill. — Oblongus, convexus, cyaneus, nitidus, elytris basi cupreo-auratis, post basin transversim violaceomicantibus; capite subtilissime punctulato, antice transversim haud impresso, antennis sat gracilibus, articulis 5 ultimis latoribus, minus transversis; prothorace transverso, lateribus leviter rotundato et cum basi marginato, angulis posticis acutis, dorso vix perspicue punctulato; scutello sat

triangulari, lævi; elytris ovatis, subparalleliis, sat fortiter punctato-striatis, punctis mox obsolescentibus, apice oblitteratis, intervallis convexiusculis, lævibus; subtus fusco-cœrulescens, pedibus fusco-cyaneis.

Hab. Nouvelle Guinée: Andai (v. Rosenberg). — Deux exemplaires du Musée de Leide.

Ressemble beaucoup à l'*E. carbunculus* Fairm., de Sumatra, en diffère par la taille plus faible, les antennes moins élargies à l'extrémité, le corselet bien plus court, plus fortement marginé sur les côtés et à la base, et par les élytres plus fortement striées, les points des stries bien plus marqués à la base, à intervalles convexes et par la coloration différente.

Eucyrtus fasciolatus, n. sp.

Long. 5 à 6 mill. — Oblongo-ovatus, modice convexus, valde nitidus, capite prothoraceque cœrulescentibus, hoc medio paulo aurulento, elytris cœrulescentibus, basi et postice aureo-cupreolis aut purpureis, medio et apice cyaneo-violaceo fasciolatis; capite punctato, ante oculos transversim utrinque impresso; prothorace elytris vix angustiore, longitudine plus duplo latiore, antice parum angustato, lateribus vix arcuatis, marginatis, dorso laxè punctato, basi medio paulo lobato; scutello minuto; elytris ad humeros recte angulatis, apice rotundatis, lineato-punctatis, punctis parum densatis, post medium obsoletis, linea suturali substriata; subtus cum pedibus fuscus.

Hab. Java (Blume), Bornéo (Schwaner). — Deux exemplaires du Musée de Leide.

Ressemble assez à l'*E. aurobasalis*, mais le corselet est bien plus large, plus court, avec les côtés à peine arqués et bien moins marginés; la coloration rappelle beaucoup celle du *Pseudeumolpus castaneipes*.

Eucyrtus semipunctatus, n. sp.

Long. 5 $\frac{1}{2}$ mill. — *E. fasciolato* sat affinis, sed paulo angustior, capite prothoraceque obscure æneis, modice ni-

tidis, elytris nitidioribus, cœruleo et purpureo fasciolatis, medio cyaneo transverse signatis; capite prothoraceque dense punctatis, sutura clypeali utrinque valde obliquata et profunda; prothorace transverso, elytris vix angustiore, antice angustato, lateribus leviter arcuatis, angustissime marginatis, basi transversim impressiusculo et lævissime utrinque sinuato, angulis posticis acute rectis, anticis parum exsertis; scutello lævi, obtuso, fere transverso; elytris ad humeros sat angulatis, oblongis, striato-punctatis, striis parum profundis, suturam versus et præsertim apice magis impressis, intervallis planis, subtilissime punctulatis, apice paulo convexiusculis; subtus cum pedibus et epipleuris fusca, vix cœrulescens, sat dense punctata.

Hab. Java (Blume). -- Un seul exemplaire du Musée de Leide.

Certains *Eucyrtus* paraissent ressembler à des *Lina*, mais cette espèce ressemble plutôt à une *Phratora*; elle est remarquable par la ponctuation serrée de la tête et du corselet, et par les bords latéraux de ce dernier qui sont à peine marginés. La coloration ressemble beaucoup à celle du *fasciolatus*.

Eucyrtus oblongulus, n. sp.

Long. $8\frac{1}{2}$ mill. — Oblongus, convexus, postice levissime ampliatus, nitidus, fuscus, paulo cœrulescens, elytris æneo-viridibus, vage purpurino micantibus; capite minore, ante oculos brevi, subtiliter dense punctulato, inter oculos transversim sulcato, his sat approximatis, extus productis, antennis prothoracis basin attingentibus, articulis 6 ultimis gradatim valde latioribus; prothorace transverso, elytris paulo angustiore, lateribus sat fortiter marginatis, antice cum angulis rotundatis, dorso polito, postice medio transversim impresso et utrinque foveolato; scutello sat magno, ogivali, plano; elytris oblongo-ovatis, ad humeros sat rotundatis, modice striatis, striis subtilissime punctulatis, extus minus impressis, 2 primis paulo profundioribus, intervallis planatis, subtilissime punctulatis; subtus lævis,

abdomine indistincte punctulato, tibiis basi leviter arcuatis, apice intus cum femoribus fulvo-pilosis, tarsis sat latis, subtus dense pilosis.

Hab. Singapore (Raffray). — Ma collection.

Cet *Eucyrtus* se distingue par sa forme oblongue, un peu parallèle, sa tête plus petite, très courte en avant, ses yeux plus rapprochés et plus saillants en dehors; les élytres sont presque unicolores, n'ayant que de faibles reflets purpurins, et les tarses sont larges, surtout les antérieurs.

Eucyrtus subcostatus, n. sp.

Long. 9 mill. — Sat elongatus, subparallelus, sat convexus, supra cœruleus, nitidus, subtus fuscus, pedibus testaceo-castaneis; capite dense punctulato, sutura clypeali profunda, clypeo antice leviter sinuato, labro distincto, rufescente, antennis rufo-piceis, medium prothoracis fere superantibus, articulis 6 ultimis sat gradatim modice latioribus; prothorace elytris angustiore, sat transverso, antice parum angustato, lateribus vix arcuatis, undulato-marginatis, dorso dense sat fortiter punctato, basi medio leviter arcuatim lobato et transversim anguste impresso; scutello minuto; elytris oblongis, parallelis, ad humeros parum rotundatis, punctato-seriatis, vix substriatis, externis magis impressis, intervallis planis, fere indistincte punctulatis, 5^o 6^oque costulatis, 4^o apice breviter costulato, spatio marginali lævi; subtus sat fortiter punctatus.

Hab. Bornéo: Sintang. — Un seul exemplaire du Musée de Leide, présenté par M. G. Severin.

Cette espèce est remarquable par sa forme très oblongue, presque parallèle, et ses élytres carénées en dehors, ainsi que par la coloration des pattes.

Eucyrtus protensus, n. sp.

Long. 7 mill. — Oblongus, subparallelus, modice convexus, cœruleus, nitidus, subtus cum pedibus, ore et antennis rufus; capite sat fortiter dense, clypeo subtiliter punctato, margine antico leviter sinuato, antennis sat

gracilibus, prothoracis basin fere attingentibus, articulis 6 ultimis modice dilatatis; prothorace elytris vix angustiore, valde transverso, antice haud angustiore, lateribus modice marginatis, antice leviter rotundatis, basi vix sensim sinuatis, dorso dense sat subtiliter punctato, angulis anticis valde obtusis, basi sat marginato et utrinque sat sinuato, angulis acutiusculis; scutello fere concavo; elytris oblongis, ad humeros sat angulatis, modice striato-punctatis, stria suturali paulo magis impressa, intervallis planis, dense subtiliter punctatis, basi post scutellum utrinque impressione obliqua sat obsolete signatis; subtus dense sat subtiliter punctatus, prosterno lateribus fortius punctato, inter coxas utrinque leviter striato.

Hab. Singapore (Raffray). — Ma collection.

Forme du *subcostatus*, mais outre la différence de taille le corselet n'est pas denticulé latéralement, ni impressionné à la base, les élytres sont un peu plus courtes et les pattes bien moins robustes.

Eucyrtus vittulatus, n. sp.

Long. 5 mill. — Oblongo-ovatus, postice paulo ampliat, sat fortiter convexus, nitidus, capite prothoraceque purpureo, viridulo et auroso mixtis, elytris purpureis, prope suturam, disco et ad marginem viridulo-vittatis; capite sat parvo, subtiliter dense punctato, inter oculos profunde transversim sulcato, clypeo brevi, epistomate producto, antennis prothoracis medium paulo superantibus, basi rufis, apice fuscis et dilatatis; prothorace elytris paulo angustiore, longitudine fere duplo latiore, antice leviter angustato, lateribus antice cum angulis rotundatis, sat anguste marginatis, dorso subtilissime dense punctulato, margine postico medio truncato et utrinque vix sinuato; scutello sat magno, ogivali, punctulato; elytris ovato-oblongis, ad humeros sat angulatis, fortiter convexus, leviter striatis, striis indistincte punctulatis, intervallis planis, subtiliter dense punctatis; subtus cum pedibus æneus, subtiliter punctatus, prosterno inter coxas convexiusculo.

Hab. Sumatra. — Ma collection.

Ressemble assez au *gibbosulus*, mais moins convexe; le corselet est très différent ainsi que les antennes.

Eucyrtus immarginatus, n. sp.

Long. 7 mill. — Oblongus, convexus, cœruleus, nitidus, elytris vix virescenti-cœruleis; capite dense punctato, antice arcuatim impresso, margine antico fere truncato, antennis sat gracilibus, basi rufescentibus, apice fuscis et parum dilatatis, articulo 3^o sequenti paulo longiore; prothorace transverso, elytris vix angustiore, antice parum angustato, lateribus parum arcuatis, angustissime marginatis, dorso sat subtiliter dense punctato, postice transversim paulo impresso, margine postico utrinque vix sinuato, angulis posticis brevissime acutiusculis; elytris ad humeros sat fortiter angulatis, postice vix sensim ampliatis, punctato-striatulis, striolis primis apice magis impressis, intervallis planatis, subtilissime dense punctulatis; subtus cum pedibus fuscus, subtiliter punctulatus, prosterno inter coxas sat fortiter canaliculato.

Hab. Bornéo (S. Müller). — Un seul exemplaire du Musée de Leide.

Cette espèce est remarquable par son corselet à peine marginé latéralement et par ses antennes grêles.

Eucyrtus picicornis, n. sp.

Long. 6 à 7 mill. — Præcedenti simillimus, similiter coloratus, et tantum antennis piceolis, articulo 3^o sequenti haud sensim longiore, prothorace paulo fortius et minus dense punctato, basi inopius ad marginem leviter impresso, angulis anticis magis rotundatis, postice magis acutis, corpore subtus cum pedibus rufulo et prosterno lateribus fortiter punctato et inter coxas haud canaliculatus sat distinctus.

Hab. Bornéo (S. Müller). — Trois exemplaires du Musée de Leide.

Eucyrtus neomidinus, n. sp.

Long. 5 mill. — Oblongus, convexiusculus, cyaneus, nitidus, subtus cum pedibus et ore rufo-piceus; capite subtiliter dense punctato, sutura clypeali medio vix distincta, antennis gracilibus, medium prothoracis valde superantibus, fuscis, basi rufescentibus, articulis 7 ultimis paulo dilatatis, articulo 3^o secundo et quarto haud sensim latiore, ceteris paulo serratis; prothorace elytris vix angustiore, valde transverso, antice angustato, lateribus leviter arcuatis, dorso subtiliter dense punctato, lateribus angustissime marginato, margine postico vix utrinque sinuato, medio paulo lobato, angulis posticis fere obtusis; scutello triangulari, fere lævi; elytris ovatis, ad humeros sat angulatis, punctato-striatis, striis sat impressis, intervallis vix convexiusculis, subtilissime punctulatis; pectore lævi, prosterno inter coxas convexiusculo, abdomine sat fortiter dense punctato.

Hab. Bornéo: Moeara teweh (J. Semmelink). — Trois exemplaires du Musée de Leide.

Ressemble un peu aux deux espèces précédentes, mais bien plus petite, plus elliptique, avec le corselet plus rétréci en avant, les élytres plus courtes et la massue antennaire formée par 7 articles.

Pseudeumolpus simulator, n. sp.

Long. 16 mill. — Oblongus, sat fortiter convexus, aurichalceus, nitidus, capite prothoraceque late purpurino tinctis, elytris leviter et longitudinaliter purpurino micantibus; capite sat lato, subtilissime punctato, inter antennis biimpresso, sutura clypeali sat impressa, antennis fuscis, brevibus, medium prothoracis vix attingentibus, articulis 6 ultimis gradatim latoribus; prothorace elytris angustiore, transverso, antice leviter angustato, lateribus parum arcuatis, angulis anticis fere rotundatis, dorso sat subtiliter sat dense punctato, disco levissime quadrifoveolato, basi late bisinuato, angulis acute rectis; scutello triangulari, lævi; elytris oblongis, ad humeros paulo obliquatis, postice haud

sensim ampliatis, apice obtusis, dorso punctato-striatis, striis parum profundis, intervallis lævibus, planiusculis; subtus fusco-cærulescens, minus nitidus, abdomine subtiliter dense punctato, basi fortius, apice fere lævi, segmento penultimo rufescente, pedibus validis, nitidis, femoribus anticis sat inflatis, subtus dente lato, acuto armatis, tibiis anticis leviter arcuatis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

Cet insecte est un des plus grands du genre; il ressemble assez à un *Gauromaia* par sa tête un peu large et son corselet peu marginé latéralement. Très voisin du *purpuricollis*, mais avec le corselet moins large, différemment coloré, n'ayant que 2 faibles impressions sur le disque, moins fortement marginé sur les côtés et le dessous du corps bleuâtre; les élytres sont un peu plus étroites et un peu moins convexes.

Pseudeumolpus picticollis, n. sp.

Long. 14 mill. — Præcedenti valde affinis, sed minor et brevior, prothorace sensim brevior, lateribus fortius marginato, margine antico magis recto, dorso magis purpureo, viridi et auroso longitudinaliter fasciolato, elytris paulo brevioribus, striis minus impressis et postice oblitteratis, intervallis magis planatis, subtiliter punctulatis, minus nitidis, subtus magis cyanescens, femoribus anticis similiter armatis.

Hab. Singapore (Raffray). — Ma collection.

Pseudeumolpus decretus, n. sp.

Long. 9 à 10 mill. — Præcedenti simillimus sed multo minor et paulo angustior, antennis minus latis, articulis 5 ultimis tantum dilatatis, prothorace paulo angustiore, angustius marginato, angulis posticis minus productis, elytris nitidioribus, sulco marginali anguste cæruleo, usque ad apicem prolongato; subtus cum pedibus fuscus, leviter

violascens, lævis, femoribus anticis acute dentatis, tibiis basi leviter arcuatis.

Hab. Singapore (Raffray). — Ma collection.

Pseudeumolpus purpuricollis, n. sp.

Long. 16 mill. — Oblongus, postice parum ampliatus, sat convexus, nitidus, capite prothoraceque purpureis, cœruleo mixtis, elytris æneis, cœruleo angustissime marginatis; capite subtiliter punctulato, sutura clypeali medio parum distincta, utrinque antice angulata, evidentiore et extus plicatulo, antennis fuscis, medium prothoracis paulo superantibus, articulis 6 ultimis valde transversis, dense punctatis; prothorace transverso, elytris angustiore, antice paulo angustato, lateribus leviter arcuatis et anguste marginatis, dorso vix perspicue punctulato, medio impressiusculo, basi subtiliter marginato et utrinque late sinuato, angulis posticis acutiusculis, anticis obtusis; scutello sat brevi, late ogivali, lævi; elytris medio sat convexis, ad humeros sat rotundatis, apice obtusis, sat subtiliter lineato-punctatis, suturam versus vix substriatulis, intervallis planis, suturam versus vix convexiusculis, lævibus; subtus cyaneus, nitidus, paulo purpureo tinctus, pedibus fuscis, nitidis, femoribus anticis subtus ante apicem dente valido armatis, et tibiis leviter arcuatis, tarsis subtus dense fulvopilosis.

Hab. Sumatra. — Ma collection.

Chez cet insecte et les suivants le corselet n'est pas défléchi sur les côtés; il est conformé comme chez les grands *Eucyrtus*, mais les fémurs antérieurs sont armés en dessous d'une forte dent.

Pseudeumolpus polychromus, n. sp.

Long. 11 mill. — *P. purpuricollis* forma et prothoracis colore valde affinis sed multo minor, elytris purpureo, violaceo, cœruleo et paulo auroso longitudinaliter ac breviter fasciolatis, basi magis cœruleis, prothorace paulo brevior, antice late sinuato, angulis minus rotundatis,

dorso subtilius punctato, postice utrinque foveolis 2 valde approximatis, postica paulo transversa, ad marginem anticum utrinque impressiusculo, scutello multo minore; subtus fusco-cœrulans, leviter purpurino tinctus, femoribus gracilibus.

Hab. Singapore (Raffray). — Ma collection.

En outre des différences ci-dessus détaillées, les fémurs postérieurs ne sont pas, comme chez le *purpuricollis*, obtusément angulés en dessous au milieu.

Pseudeumolpus Raffrayi, n. sp.

Long. 10 mill. — Præcedenti sat similis, sed paulo minor, magis convexus, capite prothoraceque purpureis, elytris basi cœruleis, deinde transversim et alternatim purpureo, auroso et cyaneo fasciolatis; capite dense minus subtiliter punctato, prothorace paulo angustiore, fortius punctato, lateribus magis rotundatis, dorso basi medio fere lobato et crassius marginato, disco haud foveolato, scutello majore, elytris evidentius punctatis, subtus magis piceus, abdomine subtiliter punctulato, femoribus anticis similiter armatis.

Hab. Singapore (Raffray). — Ma collection.

Pseudeumolpus rotundicollis, n. sp.

Long. 9 mill. — Oblongus, sat fortiter convexus, postice levissime ampliatus, capite prothoraceque violaceis, leviter purpureo micantibus, elytris cupreolis, lateribus magis viridi-aurichalceis, striis virescentibus; capite minus lato, subtilissime punctulato, basi fere lævi, antice impressiusculo, antennis angustioribus et paulo longioribus; prothorace transversa, elytris angustiore, lateribus rotundatis, angulis anticis fere rotundatis, margine antico late arcuato, dorso vix perspicue punctulato, margine postico medio obtusissime angulato, angulis posticis fere rectis; scutello sat minuto; elytris ovatis, basi truncatis, ad humeros rotundatis, substriato-punctatis, striis parum impressis, apice obsoletis, intervallis planiusculis, dense sub-

tilissime punctulatis; subtus cum epipleuris et pedibus fuscus, leviter cœruleo et purpurino tinctus, femoribus anticis dente minus lato, acuto armatis.

Hab. Singapore (Raffray). — Ma collection.

Pseudeumolpus semiarmatus, n. sp.

Long. 10 mill. — Oblongus, sat convexus, nitidus capite prothoraceque viridulis, elytris aurichalceis, margine laterali angustissime viridulo; capite sat lato, antice late rotundato, sat dense subtiliter punctato, medio late levissime impresso, antennis brevibus, articulis 5 ultimis latioribus; prothorace transverso, elytris angustiore, antice vix angustiore, lateribus sat rotundatis, dorso subtilissime punctulato, lateribus et basi sat subtiliter marginato, angulis anticis obtusis; scutello sat minuto, lævi; elytris oblongo-ovatis, ad humeros rotundatis, apice obtusis, dorso substriatulo-punctatis, striis extus et apice minus impressis, intervallis planiusculis, fere lævibus; subtus fusco-cœrulescens, modice nitidus, fere lævis, abdomine dense subtiliter punctato, apice fere lævi; femoribus anticis ♂ dente sat acuto subtus armatis, ♀ inermibus.

Hab. Sumatra: Fort de Kock. — Ma collection.

Ressemble au *rotundicollis*, la tête et le corselet sont verdâtres au lieu d'un beau bleu, les stries des élytres sont moins fortes et moins ponctuées, les intervalles plus plans; en outre les 2 sexes sont assez différents, le ♂ ayant une dent aiguë aux fémurs antérieurs, qui sont inermes chez la ♀, et les angles postérieurs du corselet formant une très petite épine, tandis qu'ils sont simplement droits chez la ♀.

Pseudeumolpus castaneipes, n. sp.

Long. 5 mill. — Ovatus, valde convexus, valde nitidus, capite viridi-æneo, prothorace purpureo, cœruleo et cupreo mixto, elytris purpureis, basi, ante et post medium transversim viridi-metallico fasciolatis, medio vitta violacea transversali ornatis; capite punctato, inter oculos

late leviter impresso, palpis et antennis rufis, his brevibus, prothoracis medium haud attingentibus, articulis 4 ultimis latis, clavatis, dense punctatis, opacis; prothorace valde transverso, elytris paulo angustiore, antice sat angustato, lateribus antice sat fortiter rotundatis, subtiliter marginatis, dorso punctulato, basi vix marginato, angulis posticis acutiusculis, anticis obtusissimis; scutello minuto, apice obtuso; elytris valde convexis, sat fortiter substriato-punctatis, intervallis fere planis, lævibus; subtus cum pedibus piceus, femoribus anticis inflatis, subtus dente valido armatis, tibiis anticis arcuatis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

Cette petite espèce présente plutôt la coloration des *Eucyrtus* avec les bandes pourpres et violettes, se fondant sur les bords, aux élytres; la tête est largement impressionnée et les côtés du corselet sont peu déclives.

Pseudonautes, n. g.

Ce nouveau genre, dont le faciès rappelle celui des *Nautes* d'Amérique, diffère des *Eucyrtus* par les antennes qui sont longues, dépassant notablement la base du corselet, grêles, avec les 5 ou 6 derniers articles un peu élargis mais non transversaux, le 3^e un peu plus long que le 4^e. La tête est assez large, les yeux très écartés, moins saillants. Le corselet est large, très court, étroitement rebordé. La poitrine et les pattes sont comme chez les *Eucyrtus*, mais les articles des tarses antérieurs sont assez larges, courts, le 4^e bilobé à tous les tarses et pas plus étroit que le précédent.

Pseudonautes vagevittatus, n. sp.

Long. 11 à 12 mill. — Ovato-oblongus, modice convexus, capite prothoraceque æneis, purpureo tinctis aut cupreo-purpureis, virescenti mixtis, elytris viridi-metallicis, sutura, vitta discoidali et margine purpureis; capite sat lato, parum brevi, sutura clypeali medio impressa, clypeo

sat magno, dense strigoso-punctato; prothorace brevi, longitudine plus duplo latiore, elytris paulo angustiore, antice paulo angustato, lateribus leviter arcuatis, dorso sat fortiter parum dense punctato, lateribus et basi sat tenuiter marginato, postice utrinque transversim impresso; scutello sat lato, apice angulato, purpureo, lævi; elytris ovato-oblongis, basi truncatis, striato-punctatis, punctis apice obsolescentibus, intervallis vix convexiusculis, lævibus; subtus similiter coloratus, nitidus, lateribus et abdomine transversim cupreolis, hoc subtiliter dense punctato, pedibus viridi et cupreo mixtis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha), Java (Blume). — Deux exemplaires du Musée de Leide. — (Sumatra, collection Dohrn).

Cet insecte ressemble un peu à une *Ceropria*: il est bien distinct par son corselet large et court, finement rebordé, très ponctué et par sa tête assez grosse. La coloration du dessous du corps est assez remarquable.

Pseudonantes helopinus, n. sp.

Long. 8 à 9 mill. — Ovato-oblongus, sat convexus, viridi-æneus, nitidus, leviter purpurino tinctus, elytris magis aurichalceis, plus minusve purpureo et cœruleo vittulatis; capite dense punctato, sutura clypeali utrinque profundiore, antennis fusco-piceis, medium corporis haud attingentibus, apicem versus parum incrassatis, articulo 3^o quarto parum longiore; prothorace elytris angustiore, valde transverso, longitudine plus duplo latiore, antice paulo angustato, lateribus leviter rotundatis, angulis antice parum obtusis, dorso sat dense parum subtiliter punctato, postice transversim fere obsolete impresso, margine postico utrinque late levissime sinuato, angulis subrectis; scutello ogivali, lævi; elytris ovato-oblongis, fortiter punctato-striatis, striis postice profundioribus, intervallis convexis, lævibus, postice paulo magis convexis; subtus fusco-violascens, lateribus cum epipleures virescens et purpurino mixtus, pedibus aurichalceis, prosterno an-

gusto, abdomine subtilissime punctato et lateribus leviter impressiusculo.

Hab. Singapore (Raffray). — Ma collection.

Cleomis, n. g.

Ce nouveau genre se rapproche des *Cyrtosoma* et des *Cnodalon* par la conformation du mésosternum qui est fourchu avec les bords saillants, angulés en avant; mais les yeux sont plus gros, plus saillants en dehors, un peu plus rapprochés sur le front; les antennes, assez courtes, ont les six derniers articles élargis; le corselet, très court, a les angles antérieurs nullement saillants, très arrondis; les élytres sont fortement rebordées à la base; les 4 tibias antérieurs sont légèrement arqués. La saillie intercoxale est assez large, obtuse; le métasternum n'est pas plus court que celui des *Cnodalon*. Le faciès de cet insecte est celui d'une très petite *Camaria*.

Cleomis violaceipes, n. sp.

Long. 9 à 10 mill. — Oblongo-ovatus, convexus, æneus, valde nitidus, pedibus purpureis, cyaneo mixtis; capite brevi, parce punctato, inter oculos transversim sulcatulo et utrinque impressiusculo, his paulo emarginatis, labro lato, brevi, palpis maxillaribus articulo ultimo lato, oblique securiformi; antennis prothoracis basin vix attingentibus, articulis 6 ultimis latioribus, ultimo longiore; prothorace elytris angustiore, longitudine duplo latiore, antice haud angustato sed lateribus cum angulis rotundatis, his cum basi fortiter marginatis, antice lateribus tantum marginatis, basi fortiter bisinuato, angulis posticis acutiusculis, dorso fere lævi, ad latera paulo impressiusculo; scutello cupreo aut violaceo, triangulari, lævi; elytris ad humeros paulo elevatis, sat rotundatis, postice vix ampliatis, apice obtusis, dorso punctato-lineatis, lævibus, margine laterali fere sulcato et apice intus subtiliter carinulato; subtus fere lævis, genubus cyaneis.

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Hab. Bornéo (S. Müller et Schwaner); Bornéo occ.: Sambas (Dr. J. Bosscha). — Trois exemplaires du Musée de Leide.

Cleomis opaculus, n. sp.

Long. 12 mill. — Oblongo-ovatus, convexus, æneus, capite prothoraceque nitidis, elytris parum nitidulis; capite subtiliter punctulato, antennis medium prothoracis attingentibus; prothorace elytris angustiore, valde transverso, lateribus sat marginatis, antice cum angulis rotundatis, postice leviter sinuatis, dorso sat subtiliter sat dense punctato, angulis posticis sat acute productis; scutello planiusculo, impresso; elytris ad humeros rotundatis, postice vix ampliatis, dorso substriato-punctatis, striis vix impressis, punctis apice obsolescentibus, intervallis planis, indistincte punctulatis, 8^o apice sat acute carinato; subtus fusco-metallescens, subtiliter punctulatus, pedibus valde nitidis, tibiis antice levissime arcuatis.

Hab. Singapore (Raffray). — Ma collection.

Bien distinct du précédent par la taille et la coloration à peine brillante des élytres.

Asbolodes, n. g.

Corpus ovatum, subgibbosum. Epistoma antennarum basin superans. Prothorax elytris angustior, lateribus obsoletissime undulatus. Elytra sat brevia, humeris obliquis, valde elevatis. Oculi a prothorace distantes. Antennæ prothoracis basin fere attingentes, articulis 4 ultimis dilatatis. Scutellum ogivale. Epipleuræ basi sat latæ, postice paulatim angustiores. Processus intercoxalis latus, valde obtusus. Mesosternum parum concavum, lateribus haud elevatis, prosternum inter coxas sat latum, impressum, apice brevissime dentiforme. Pedes validi, sat magni.

Ce nouveau genre est très voisin des *Cyrtosoma* dont il a bien le faciès, mais l'épistôme n'est pas aussi court, les 4 derniers articles des antennes sont dilatés, le mésosternum est peu impressionné et la saillie prosternale très courte.

Asbolodes humerosus, n. sp.

Long. 10 mill. — Ovatus, convexus, elytris fere gibbosis, fuscus, subopacus, elytris vix nitidulis, humeris politis, nitidis; capite sat lato, dense rugosulo-punctato, clypeo arcuatim impresso, labro lato, brevi, oculis transversis, sat convexis; antennis basi sat gracilibus, articulo 3^o quarto vix longiore; prothorace transverso, elytris valde angustiore, transverso, antice paulo ampliato et cum angulis rotundato, margine antico haud emarginato, fere recto, lateribus postice levissime sinuatis, indistincte undulatis, dorso dense sat subtiliter punctato, basi marginato et utrinque sinuato, angulis rectis; scutello plano, late ogivali, lævi; elytris brevibus, ad humeros obliquatis et fortiter plicato-elevatis, postice paulo ampliatis, apice obtusis, dorso leviter punctato-substriatis, intervallis planissimis, lævibus; subtus lævis, metapleuris parallelis, pedibus punctato-rugosis, femoribus apice sat clavatis, tibiis anterioribus apice paulo incurvis, femoribus posticis elytrorum apicem attingentibus, tarsis subtus pilosis, articulo ultimo ceteris conjunctis æquali.

Hab. Bornéo (Schwaner). — Un seul exemplaire du Musée de Leide.

Le faciès de cet insecte est celui du *Cyrtosoma atrum* Dej. mais le chaperon est bien moins court, l'épistôme indistinct, les angles antérieurs du corselet sont bien plus arrondis, les épaules fortement relevées, le mésosternum à peine creusé.

Camaria malayana, n. sp.

Long. 25 mill. — Oblonga, convexa, postice leviter ampliata, æneo-metallica, nitida, capite prothoraceque paulo minus nitidis; capite dense sat subtiliter punctato, sutura clypeali sat impressa, medio recta, utrinque arcuatim fortiter antice producta, margine antico late obsolete sinuato, labro antice fortiter punctato et ciliato, antennis prothoracis basin vix attingentibus, piceis, articulis 4 ultimis

lterioribus, ferrugineis, 8° nono paulo longiore; prothorace elytris valde angustiore, valde transverso, antice parum attenuato, lateribus fere rectis, subtiliter marginatis, angulis anticis rotundatis, dorso sat subtiliter, lateribus dense, disco laxè punctato, basi utrinque leviter longe sinuato, utrinque sat subtiliter marginato, angulis posticis sat retrorsum acutis; scutello lævi, apice rotundato; elytris oblongis, ad humeros angulatis, postice leviter ampliatis, apice sat acutis, dorso fortiter punctato-striatis, striis latis, opacis, punctis densatis, intervallis subtiliter alutaceis, modice convexis, basi, extus et præsertim apice magis convexis; subtus vix nitidula, abdomine dense subtiliter coriaceo, pedibus validis, rugoso-punctatis, articulo ultimo longissimo.

Hab. Bornéo (Schwaner). — Un seul exemplaire du Musée de Leide.

Ressemble à la *C. spectabilis*, de la Chine, en diffère par le corselet finement et moins densément ponctué, moins rétréci en avant, les élytres à stries ponctuées, le dessous du corps presque mat et les tarses plus robustes.

Amarygmus pulchridorsis, n. sp.

Long. 9 mill. — Ovatus, convexus, nitidus, aurichalceus, capite prothoraceque cœruleo et purpurino mixtis, elytris basi et apice, medio latius cyaneo transversim fasciatis, his fasciis purpurino marginatis; capite subtiliter punctato, antice transversim sulcato, oculis valde approximatis, antennis fuscis, sat gracilibus, corporis medium attingentibus, apicem versus parum crassioribus, articulo 3° quarto dimidio longiore; prothorace basi elytris haud angustiore, valde transverso, antice valde angustato, lateribus a basi arcuatis, dorso subtiliter dense punctato, basi vix bisinuato et obsolete biimpresso; scutello acute ogivali, indistincte punctulato; elytris sat breviter ovatis, punctis grossis seriatis, suturam versus vix substriatis, serie marginali basi et apice fere obsoleta, intervallis subtilissime sat dense punctulatis; subtus cum epipleuris et pedibus

piceus, nitidus, abdomine basi subtiliter striolato, pectore lævi, pedibus sat magnis, tibiis posterioribus apice leviter incurvis.

Hab. Bornéo (S. Müller). — Un seul exemplaire du Musée de Leide.

Forme et sculpture du *convexus* Pasc., d'Australie, mais un peu plus court et plus convexe, d'une coloration très différente, avec les pattes plus grandes, les tibias postérieurs arqués à l'extrémité.

Amarygmus iridipennis, n. sp.

Long. 10 mill. — Ovato-ellipticus, convexus, nitidus, capite viridi-metallico et purpurino mixto, prothorace viridi-metallico, transversim purpurino fasciato, elytris vittulis brevibus cœruleo-viridibus et purpureis alternatim ornatis; capite dense subtiliter punctato, antice transversim sulcato, oculis modice approximatis, antennis gracilibus, fuscis, medium corporis paulo superantibus, articulo 3^o duobus sequentibus conjunctis fere æquali; prothorace brevi, longitudine duplo latiore, elytris parum angustiore, antice valde angustato, sat subtiliter sat dense punctato; scutello triangulari, acuto, punctulato; elytris ovatis, punctato-striatis, intervallis vix convexiusculis, subtiliter dense punctatis, apice magis elevatis; subtus cum pedibus nigro-fuscus, nitidus, prosterno inter coxas lato, utrinque leviter striato, apice fere rotundato, mesosterno punctato, medio anguste lævi, abdomine subtiliter dense strigosulo.

Hab. Sumatra. — Ma collection.

Forme du *spectabilis*, mais plus elliptique, d'une coloration et d'une sculpture très différentes. La coloration rappelle celle de quelques *Ceropria* et *Pseudeumolpus*.

Amarygmus aeneolus, n. sp.

Long. 8 mill. — Breviter ovatus, sat fortiter convexus, valde nitidus, æneus, capite prothoraceque paulo cœrulescentibus et elytris levissime cœruleo micantibus; capite obscuriore, subtilissime punctato, antice profunde trans-

versim sulcato, epistomate labroque ferrugineis; antennis fuscis, gracilibus, medium corporis attingentibus, apicem versus vix crassioribus, articulo 3^o quarto dimidio longiore; prothorace elytris sat angustiore, brevissimo, antice valde angustato, lateribus a basi rotundatis, dorso fere polito, basi leviter bisinuato, angulis posticis sat obtusis; scutello triangulari, lævi; elytris breviter ovatis, basi truncatis, sat fortiter lineato-punctatis, linea suturali striata, secunda postice substriata, intervallis subtiliter densissime punctatis; subtus cum pedibus fusco-metallescens, lævis, pedibus sat gracilibus, tibiis levissime arcuatis.

Hab. Bornéo et Sumatra (S. Müller). — Trois exemplaires du Musée de Leide.

Forme du *convexus*, d'Australie, mais un peu plus convexe et d'une coloration différente ainsi que la sculpture.

Amarygmus variicolor, n. sp.

Long. 5 à 6 mill. — Elliptico-ovatus, sat convexus, cyaneus, nitidus, plus minusve purpureo tinctus; capite subtilissime punctulato, antice fortiter sulcato, oculis valde approximatis; antennis fuscis, medium corporis superantibus, gracilibus, apicem versus paulo crassioribus, articulo 3^o quarto longiore; prothorace minus brevi, elytris parum angustiore, antice valde angustato, lateribus arcuatis, dorso dense subtiliter punctato, basi levissime bisinuato, angulis sat obtusis; scutello ogivali, lævi; elytris ovatis, punctulato-striatis, striis primis paulo profundioribus, intervallis vix convexiusculis, vix distincte punctulatis, striis 2 externis basi et apice obsolescentibus; subtus cum pedibus piceus aut fuscus, fere lævis, abdomine basi vix striolato-punctulato, pedibus gracilibus, tibiis posterioribus levissime arcuatis.

Hab. Bornéo (S. Müller et Schwaner). — Trois exemplaires du Musée de Leide.

Forme des *A. tuberculiger* et *hydrophiloides*, en diffère par la taille bien plus faible, les élytres plus ovalaires, à stries beaucoup moins profondes, à intervalles presque plans.

Amarygmus sanguinans, n. sp.

Long. 8 à 10 mill. — Oblongus, sat fortiter convexus, fuscus, sat nitidus, elytris obscuro-sanguineo plus minusve plagiatis, interdum fere obsolete, capite et prothorace antice interdum sanguineis; capite dense punctato, oculis valde approximatis, antennis fuscis, parum gracilibus, medium corporis attingentibus, articulis 6 ultimis paulo latioribus, articulo 3^o sequenti vix longiore; prothorace transverso, a basi antice angustato, lateribus arcuatis, valde deflexis, dorso dense punctato, basi utrinque vix sinuato; scutello fere ogivali, fere lævi; elytris ovatis, postice attenuatis, punctato-striatis, striis modice impressis, punctis postice obsoletis, intervallis planis, indistincte punctulatis; subtus fuscus, vix nitidulus, obsolete punctulatis, femoribus (genubus exceptis) sanguineis.

Hab. Java (Blume), Sumatra (S. Müller) et Bornéo (S. Müller). — Cinq exemplaires du Musée de Leide.

Espèce remarquable par sa coloration et sa forme allongée, convexe; les élytres ont parfois tout le disque rougeâtre, ou bien cette couleur forme 4 taches vaguement indiquées.

Dietysus anthracinus, n. sp.

Long. 12 mill. — *D. ovoideo* simillimus, sed paulo minor et angustior, magis nigrans, antennis longioribus, medium elytrorum superantibus, apice haud crassioribus, auriculis antennariis minus elevatis, oculis infra minus expansis, prothorace angusto, vix transverso, angulis anticis sat acute productis, elytris angustioribus, paulo subtilius striatis, striis sat subtiliter sed evidenter punctulatis, intervallis planissimis, subtilissime punctulatis, pedibus nigris, tibiis posticis leviter arcuatis.

Hab. Bornéo. — Ma collection.

Strongylium truncatipenne, n. sp.

Long. 12 mill. — Sat elongatum, convexus, capite prothoraceque æneo-viridulis, vix nitidulis, elytris æneis,

nitidissimis; capite summo valde rugoso, inter oculos breviter sulcatulo, antice dense punctato, lobis antennariis sat elevatis, oculis magnis, antice valde approximatis, antennis parum gracilibus, medium corporis haud attingentibus, fuscis, articulis 4—10 paulo latioribus, compressis, dense punctatis, articulo 3^o quarto longiore, 4^o sat elongato; prothorace transverso, elytris angustiore, lateribus ante angulos et cum angulis antice rotundatis, dorso fortiter punctato-rugoso, basi et antice marginato et polito, angulis posticis rectis; scutello triangulari, polito; elytris parum elongatis, postice paulo ampliatis, apice oblique leviter sinuatis, angulo externo dentiformi, dorso punctato-striatis, extus usque post medium foveolatis, juxta suturam leviter triimpressis, basi extus levissime plicatulis, intervallis lævibus, vix convexiusculis, 3^o basi longe, 5^o 6^o que breviter costulatis, humeris elevatis et paulo incrassatis; subtus virescens, pectore fortiter punctato, abdomine subtilissime striolato-punctato, segmento ultimo apice utrinque impresso et leviter sinuato, pedibus cyaneis, elongatis, gracilibus, punctatis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

Ressemble beaucoup au *foveolatum* mais la coloration est assez différente, les yeux sont bien plus rapprochés, les antennes moins longues, les élytres sont légèrement impressionnées vers la suture, un peu échancrées à l'extrémité avec une petite dent externe et les pattes sont un peu plus grêles.

Strongylium lanigerum, n. sp.

Long. 16 mill. — Oblongum, postice parum ampliatus, valde convexum, fusco-ænescens, nitidum, sat longe et sat dense griseo-villosum, capite prothoraceque parum nitidis, fere subopacis; capite dense rugosulo-punctato, inter oculos impressiusculo, his sat approximatis, antennis fuscis, basin prothoracis paulo superantibus, basi gracilibus, articulo 3^o elongato, 5 ultimis latis, clavam compressam

efficientibus; prothorace elytris valde angustiore, a basi antice angustato, lateribus fere rectis, antice fere truncato, crasse marginato, angulis obtusissimis, dorso dense punctato-rugoso, basi late sinuato, tenuiter marginato, angulis productis paulo acutis; scutello triangulari-oblongo, acuminato, lævi; elytris ad humeros rotundatis, postice valde declivibus, apice obtusis, seriatim grosse punctatis, postice paulo substriatis, punctis decrescentibus, intervallis parum dense punctatis, prope suturam sat late pluriimpressis; subtus cum pedibus paulo cyanescens et longe villosum, punctulatum, pedibus sat magnis, tibiis medio densius villosis, prosterno lato, plano.

Hab. Bornéo occ.: Sambat (Dr. J. Bosscha). — Deux exemplaires du Musée de Leide.

Ressemble un peu au *S. villosum*, de l'Inde, mais plus grand, plus convexe, d'une coloration différente et remarquable par sa villosité laineuse; le corselet est bien plus long, les élytres sont bien plus fortement ponctuées et sont impressionnées le long de la suture. Les antennes, bien plus courtes, sont comprimées et élargies à l'extrémité.

Strongylium gibbicolle, n. sp.

Long. 17 mill. — Elongatum, subparallelum, crassum sed dorso planiusculum, æneo-cupreolum, nitidum, capite prothoraceque viridi-æneo tinctis, elytris anguste cœruleo marginatis, subtus cum pedibus cyanescens, pectore medio paulo purpurino, femoribus rufis, apice cyaneis; capite summo obscuro, dense punctato, antice nitidiore, viridi-æneo, subtilius punctato, oculis vix separatis, magnis; antennis sat gracilibus, medium corporis fere attingentibus, fuscis, apicem versus leviter crassioribus, articulo 3^o quarto parum longiore; prothorace elytris valde angustiore, vix transverso, dorso bigibboso, medio intus fortiter excavato, fere lævi, undique valde marginato; scutello acute triangulari, medio impresso; elytris elongatis, ad humeros paulo obliquatis, apice obtusis, grosse seriato-punctatis, punctis basi fere foveolatis, apice multo minoribus, inter-

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vallis transversim leviter plicatulis, postice subcostatis, lævibus, intervallo suturali medio biimpresso, serie 1^a depressa, minus grosse punctata; subtus fere læve, prosterno inter coxas canaliculato, apice depresso et punctato, pedibus sat elongatis, femoribus apice et tibiis punctulatis.

Hab. Bornéo: Sintang. — Un seul exemplaire du Musée de Leide, présenté par M. W. Albarda.

Voisin des *S. imbrum* et *gratum*, remarquable par la double gibbosité occupant tout le corselet qui est fendu et largement excavé au milieu, les deux saillies paraissant former une tenaille.

Strongylium tenuipes, n. sp.

Long. 13 mill. — Elongatum, convexum, postice attenuatum et leviter compressum, fusco-cœrulescens, capite prothoraceque fere opacis, elytris nitidulis, femoribus posticis basi late rufis; capite dense punctato-rugoso, antice brevi, sutura clypeali profunda, clypeo recte truncato, labro lato, brevi, truncato, oculis magnis, valde convexis, fere contiguïs, antennis filiformibus, medium corporis paulo superantibus, articulo 2^o brevissimo, 3^o quarto fere æquali, ultimis 5—11 fere æqualibus; prothorace paulo transverso, elytris valde angustiore, antice angustato, lateribus fere medio angulatis, dorso dense punctato-rugoso, basi et antice marginato, linea dorsali vix impressa; scutello triangulari-ovato, dense punctulato; elytris elongatis, ad humeros obliquatis, apice oblique truncatis et breviter dentatis, dorso seriatim foveolatis, foveolis post medium valde decrescentibus, intervallis convexis, lævibus, usque ad medium transversim leviter plicatulis; pectore lateribus punctato, abdomine subtiliter punctato, pedibus elongatis, gracilibus, femoribus apice paulo crassioribus, tarsis gracillimis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide.

Ressemble beaucoup au *S. japanum* Mars., mais plus bleuâtre, avec les yeux plus gros, plus rapprochés, le front non sillonné et les antennes plus longues, plus grêles

ainsi que les pattes; en outre, les élytres sont tronquées obliquement à l'extrémité, avec l'angle interne formant une petite dent assez pointue.

Oedemeridae.

Ananca impressiuscula, n. sp.

Long. 16 à 21 mill. — Elongata, convexa, canellina, parum nitida, subtiliter pubescens; capite vix perspicue punctulato, mandibulis apice fuscis, oculis valde approximatis, antennis parum gracilibus, elongatis, $\frac{3}{4}$ corporis attingentibus, articulo 1^o elongato, 2^o sat elongato, 3^o sequenti paulo longiore; prothorace elytris valde angustiore, antice leviter ampliato, lateribus fere rectis, ad angulos anticos tantum rotundato, his sat fortiter angulatis, dorso dense sat subtiliter punctato, basi medio sat late impresso, antice et lateribus impressiusculo, margine basali sat acute elevato, ad angulos posticos paulo exserto; scutello dense punctulato, apice obtuso; elytris elongatis, ad humeros sat rotundatis, apice obtusis, sutura et utrinque costulis 3 sat elevatis, intervallis subtiliter dense granulatis; subtus dense subtiliter coriacea; ♂ minor, prothorace basi profundius impresso, elytrorum costulatis parum elevatis, apice obsoletis, ♀ major, prothorace basi minus, antice lateribus magis impresso, elytris fortius costulatis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Un seul exemplaire du Musée de Leide. — (Pulu Penang: ma collection).

Ressemble à l'*A. sculpticollis* Fairm., de Sumatra, mais d'une coloration roussâtre avec les yeux plus rapprochés, le 2^e article des antennes plus long, le corselet plus étroit, à côtés presque droits, non sinués à la base, le disque moins sillonné, les élytres plus fortement rugueuses, non terminées par une épine.

Paris, 30 Mai 1892.

NOTE IV.

A REVIEW OF THE GENUS RHIPIDURA,

WITH AN ENUMERATION OF THE SPECIMENS IN
THE LEYDEN MUSEUM

BY

J. BÜTTIKOFER.

When occasionally looking over the specimens of the genus *Rhipidura* in our Museum, there were so many puzzling questions which could not be satisfactorily dissolved at once, that I decided to a comparative revision of the whole genus. This revision is not solely based upon our own material, but also on the rich and well-arranged collection in the British Museum, which I had the good fortune to look through during my recent visit to London, and amongst which I found several species, which were published after the issue of Dr. Sharpe's excellent Catalogue of the Muscicapidae. As in this catalogue the synonymy of each species is well-established up to the date of its issue, it would be of very little value to give it here once more, and I restricted, therefore, all synonymical remarks to those species about which I differ from the author of the Catalogue and to the species which were published afterwards.

As to the limits of the genus, I agree with Dr. Sharpe

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in including the genera *Leucocerca* and *Sauloprocta*; moreover I found, and Dr. Sharpe adheres now to this opinion, that the genus *Neomyias*, established in his catalogue, has to be reunited with *Rhipidura*.

The genus, as it is understood in this review, contains the considerable number of 75 species, of which five are described here as new.

Although I was fully aware of the difficulties to meet with, I made an attempt to find a natural order in which to place the numerous species of this genus. For this purpose I divided the whole genus into a group with small (13 cm. or less) and another with large bill (more than 13 cm.). This classification is, I am sorry to say, not quite perfect, as the last species of the small-billed group, *R. albiventris* from the Philippines, would, in fact, rather belong to the second group. On account of its red back, however, which forms a characteristic of a section of the first group, and its near relationship to *R. cyaniceps*, I prefer to close the first group with it, rather than placing it at the head of the second. On the other hand I placed in my second group, for similar reasons, a species with short bill, *R. pectoralis*, as it has no other relationship whatever with the short-billed group. The further classification of the species of each group into well-defined sections and subsections will be learnt from the key to the species, and I am pleased to say that but a very few species had to be placed, as it were by force, into one or other section of the genus.

I cannot close these few introductory lines without any expression of gratitude, especially to the address of Dr. Sharpe, for the kindness with which I was allowed to examine the rich materials in the British Museum and to increase the number of our species of this genus with such which were hitherto wanting in the series of the Leyden Museum.

- b*⁴. Upper and lower surface black. *fallax* 13.
b^{'''}. With a white superciliary stripe.
*a*⁴. Tail uniform *atra* 14.
*b*⁴. Tail broadly tipped with white *albicollis* 15.
b^{''}. Above gray, earthy brown or chocolate-brown, abdomen either pale chestnut, fulvous or white.
a^{'''}. No black patch on lower throat, which is, as well as the chest, white with dusky brown streaks.
*a*⁴. Outer web of two pairs of outermost tail-feathers white on its terminal half, back earthy brown *layardi* 16.
*b*⁴. Only the outermost tail-feather with the outer web white, back tinged with chestnut brown.
*a*⁵. Dusky streaks on chest numerous, broad *erythronota* 17.
*b*⁵. Dusky streaks on chest narrower and less numerous. *rufilateralis* 18.
b^{'''}. Lower throat black, forming a more or less complete cross-band.
*a*⁴. Chest, breast, flanks and abdomen pale chestnut. *hyperythra* 19.
*b*⁴. Chest below the cross-band uniform white, unscaled.
*a*⁵. Upper surface ashy gray *albilimbata* 20.
*b*⁵. Upper surface earthy brown. *personata* 21.
*c*⁴. Chest white with black centres, giving it a scaly appearance.
*a*⁵. Upper surface smoky brown. *kubaryi*. 22.
*b*⁵. Upper surface chocolate brown. *melanolaema*. 23.
b. Lower back always rusty red or cinnamon.
a[']. Forehead black.
a^{''}. Tail entirely cinnamon.
a^{'''}. Lores black *phoenicura* 24.
b^{'''}. Lores white *opisterythra* 25.
b^{''}. Tail brown, red at extreme base, all the tail-feathers, except the innermost pair, tipped with white *squamata* 26.
b[']. Forehead white, rest of upper surface cinnamon-rufous. *elegantula* 27.
c[']. Forehead red.
a^{''}. Tail-feathers tipped with white or ashy white.
a^{'''}. Dark parts of tail black or dark brown.
*a*⁴. Entire throat black, leaving only a nar-

- row space on the chin and a moustachial streak white.
- a*⁵. Feathers on the abdomen unstriped . *uraniae* 28.
- b*⁵. Feathers on the abdomen with a dark shaft-streak *astrolabi* 29.
- b*⁴. Upper throat white.
- a*⁵. A black patch on lower throat, chest scaly, the black feathers being edged with white.
- a*⁶. Upper back olive-brown, contrasting with the lower, which is rich cinnamon-red *rubrofrontata* 30.
- b*⁶. Upper surface rich brown with a reddish tinge *versicolor* 31.
- c*⁶. Upper surface cinnamon-rufous . . *semirubra* 32.
- b*⁵. Lower throat black, chest uniform . *russata* 33.
- b*^{'''}. Dark parts on tail brown, more or less tinged with pearly gray.
- a*⁴. Mantle olive-brown, contrasting with the red back.
- a*⁵. Chest scaly, the black feathers being edged with white.
- a*⁶. Entire basal half of tail-feathers red *rufifrons* 34.
- b*⁶. Extreme base of tail-feathers only edged with red. *dryas* 35.
- b*⁵. Chest below the black throat-patch uniform white. *semicollaris* 36.
- b*⁴. Mantle rufous, like back and rump.
- a*⁵. A narrow black patch on lower throat. *hamadryas* 37.
- b*⁵. Black throat-patch very broad, reaching nearly up to the chin which is white, as also a broad moustachial streak, running down along the sides of the black throat *celebensis* 38.
- c*⁵. No black patch on lower throat, which is ashy fulvous *rufidorsa* 39.
- b*^{''}. Two basal thirds of tail-feathers pale chestnut, terminal third black, three outermost pairs narrowly edged and tipped with fulvous *teysmanni* 40.
- c*^{''}. Tail sepia brown, extreme base, outer web of outermost tail-feathers, and broad tips to all the tail-feathers deep rusty red.
- a*^{'''}. Shafts of tail-feathers dark brown, wing 7,5 cm. *lepida* 41.

- a*⁴. Chest-band distinctly spotted with white.
*a*⁵. No white tips on the tail-feathers.
*a*⁶. Tail uniform sooty black *cinerea* 58.
*b*⁶. Outer web of outermost tail-feather
white on its terminal half. *lenzi* 59.
*b*⁵. Tips to two or three outer tail-feathers
white.
*a*⁶. Abdomen ochraceous. *hoedti* 60.
*b*⁶. Abdomen white *vidua* 61.
*b*⁴. Chest-band uniform or with some very
narrow white shaft-streaks.
*a*⁵. Secondaries not or only faintly edged
with white.
*a*⁶. Abdomen ochraceous *setosa* 62.
*b*⁶. Abdomen white *kordensis* 63.
*b*⁵. Secondaries broadly edged with white.
*a*⁶. Abdomen white *obiensis* 64.
*b*⁶. Abdomen pale ochraceous *finschi* 65.
b^{''}. Upper surface tinged with olive brown or
earthy brown, never pure ashy gray.
a^{'''}. Upper throat white.
*a*⁴. Only the outermost pair of tail-feathers
tipped with white *assimilis* 66.
*b*⁴. Two outermost tail-feathers tipped with
white.
*a*⁵. A distinct gray chest-band with white
lanceolate shaft-streaks to the feathers,
white tip to the outermost tail-feather
less than an inch. *isura* 67.
*b*⁵. No distinct gray chest-band, white
tips to tail-feathers much more than
an inch in length *rufiventris* 68.
*c*⁴. Four outermost tail-feathers tipped with
white. *javanica* 69.
*d*⁴. No distinct white spots on tail-feathers,
which are brown, becoming paler towards
the tips. *pectoralis* 70.
*e*⁴. Five outer pairs of tail-feathers tipped
with white. *nigritorquis* 71.
b^{'''}. Upper throat black, some feathers tipped
with white.
*a*⁴. A black pectoral band, three outer tail-
feathers tipped with white *auricularis* 72.
*b*⁴. No black pectoral band, five outer pairs
of tail-feathers tipped with white. *albifrontata* 73.

- c". Upper surface, chin, throat and chest glossy black.
- a". Inner secondaries broadly edged with white, feathers on chest centred with oval white spots *cockerelli* 74.
- b". No white edgings to secondaries, chest unspotted. *melanoleuca* 75.

1. *Rhipidura flabellifera* (Gm.).

A nearly adult specimen, with some spots on the wing-coverts still rufous, from New Zealand.

2. *Rhipidura bulgeri* Layard.

Two adult specimens from Noumea, New Caledonia.

3. *Rhipidura albiscapa* Gould.

Three specimens from »Australia" and two from New South Wales.

4. *Rhipidura diemenensis* Sharpe.

Rhipidura saturata (nec Salvad.) Sharpe, Cat. B. Br. Mus. IV, p. 311 (1879).

Rhipidura diemenensis Sharpe, Ibis, May 1879, p. 368.

Rhipidura sharpei Ramsay, Proc. Linn. Soc. N. S. Wales, 1879, p. 318.

Hab. Tasmania.

5. *Rhipidura preissi* Cabanis.

Rhipidura preissi Cab. Mus. Hein. I, p. 57 (1850); Sharpe, Cat. B. Br. Mus., IV, p. 310; id. P. Z. S. 1881, p. 387.

Hab. Western Australia.

6. *Rhipidura pelzelni* Gray.

Hab. Norfolk Island.

7. *Rhipidura brenchleyi* Sharpe.

One specimen from Aneitum, New Hebrides.

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8. *Rhipidura cervina* Ramsay.

Rhipidura cervina Ramsay, Proc. Linn. Soc. N. S. Wales, 1879, p. 340.

Rhipidura macgillivrayi Sharpe, P. Z. S. 1881, p. 789, pl. 67.

Hab. Lord Howe's Island.

9. *Rhipidura nebulosa* Peale.

Three specimens from Samoa.

10. *Rhipidura spilodera* Gray.

Hab. Banks Islands.

11. *Rhipidura verreauxi* Marie.

An adult male from Noumea, New Caledonia.

12. *Rhipidura fuliginosa* (Sparrm.).

One specimen from New Zealand.

13. *Rhipidura fallax* Ramsay.

Rhipidura fallax Ramsay, P. Z. S. 1884, p. 580.

Hab. Astrolabe Range, S. E. New Guinea.

This species seems to differ from *R. atra* Salvad. in wanting the white patch above the eye.

14. *Rhipidura atra* Salvadori.

Rhipidura atra Salvad. Ann. Mus. Civ. Genova, VII, p. 922 (1875); XII, p. 324 (1878).

Rhipidura brachyrhyncha (nec Schleg.) Sharpe, Cat. B. Br. Mus. IV, p. 316 (description of adult male); Salvad. (partim) Ann. Mus. Civ. Genova, XIV, p. 500 (1879); id. Orn. Pap. II, p. 72 (1881).

Adult male and female slaty black with a silky white patch above the eye. Young birds seem to have a red plumage, as Count Salvadori (Ann. Mus. Civ. Genova, VII, p. 922) mentioned a black bird with some red feathers, which latter may be considered the remnants of the immature plumage. The same seems to be the case with *R. flabellifera* (see Sharpe, Cat. Birds, IV, p. 309).

Adult male and female from Arfak, collected by Bruyn

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on February 13th and 15th 1876. The female has some rusty red feathers on the breast and near the base of the tail.

Unfortunately for the synonymy of this and other species, a great confusion was caused by the statement of Beccari's, that the specimens of *R. atra* Salvad. were nothing but the black males and the specimens of *R. brachyrhyncha* auct. recent. (nec Schleg.) the red females of one and the same species, which ought to bear, as the older, the name *R. brachyrhyncha*. Although this point of view he agreed with by our most eminent recent Ornithologists, I feel, after a near examination of the matter, quite unable to share this opinion. It is a rather strange supposition that, in only one species of such a large genus, male and female would be so strikingly different in color, the more as in our Museum as well as in the series treated of by Salvadori in the second volume of his Ornithologia delle Papuasias, one of the black specimens is said to be a female. The same is, moreover, the case with the only specimen of this species, found in the collections of the British Museum, being a black female from the Arfak Mountains.

Very curious is the fact that the red birds, which were considered, first by Dr. A. B. Meyer and afterwards by Dr. Sharpe and Count Salvadori, to belong to *R. brachyrhyncha* Schleg., are quite different from this latter species. They cannot be identified either with *R. brachyrhyncha* nor *R. atra*, of which they were believed to be the females, but belong to a quite different species, which is identical with *R. cinnamomea*, described by Dr. A. B. Meyer in Zeitschr. f. Ges. Orn. 1886, p. 17, pl. III, fig. 3.

15. *Rhipidura albicollis* Vieillot.

Rhipidura albicollis Vieill. N. Dict. d'Hist. Nat. XXVII, p. 13.

Rhipidura atrata Salvad. Ann. Mus. Civ. Genova, XIV, p. 203 (1879).

Rhipidura vidua (nec Salvad.) Schleg. in Snellesman, Sumatra Exp. Aves, pl. II (1884).

Three specimens from the Indian Continent and one

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(the type of *R. vidua*, figured in the above mentioned plate) from the Highlands of Padang, collected by the Dutch Expedition through Sumatra.

Our Sumatran specimen is not specifically different from *R. albicollis* from the Continent, of which I had the good fortune to get 75 specimens in the British Museum to compare with, amongst them one from Perak. One might say that, as a rule, the Sumatran specimens, of which I saw one in the British Museum, would have the white tips clearer white and longer than those from the Continent; I found, however, amongst the Indian birds enough specimens to form a series showing every degree of a gradation between *R. albicollis* and *atrata*, and the specimen from Perak certainly would belong to the latter, if it might be maintained as a distinct species. (See also Sharpe, on Birds from Perak, P. Z. S. 1887, p. 435, and Salvadori, Uccelli di Birmania, Ann. Mus. Civ. Genova, 1887, p. 590).

16. *Rhipidura layardi* Salvadori.

A male and two females from Viti Levu.

17. *Rhipidura erythronota* Sharpe.

A male from Vanua Levu.

18. *Rhipidura rufilateralis* Sharpe.

A male from Taviuni, Fiji Islands.

19. *Rhipidura hyperythra* Gray.

Rhipidura hyperythra Sharpe, Birds of New Guinea, Vol. II, pl. 33.

A specimen from Aru (von Rosenberg) and two from N. W. New Guinea.

20. *Rhipidura albilimbata* Salvadori.

Two males from Karons, N. W. New Guinea.

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21. *Rhipidura personata* Ramsay.

Two females, collected by Kleinschmidt on the Island Kandavu, Fiji group.

22. *Rhipidura kubaryi* Finsch.

An adult bird from Ponapé.

23. *Rhipidura melanolaema* Sharpe.

Hab. Vanikoro, New Hebrides.

24. *Rhipidura phoenicura* Müll. & Schleg.

Three specimens from Java, amongst which the two types, and a fourth specimen from Borneo.

25. *Rhipidura opistherythra* Selater.

Rhipidura opistherythra Selat. P. Z. S. 1883, p. 197; Sharpe, Birds of New Guinea, Vol. II, pl. 29.

Hab. Timor Laut.

26. *Rhipidura squamata* Müll. & Schleg.

Eight specimens: Adult male and female from Banda (types, voyage S. Müller), a male from Koor (von Rosenberg), a female from Matabello (von Rosenberg), male and female from Waigama, Mysol (Hoedt), a female from one of the small islands on the west-coast of Waigiou (Bernstein) and a specimen without indication of locality.

27. *Rhipidura elegantula* Sharpe.

Rhipidura elegantula Sharpe, N. L. M. 1879, p. 21.

The typical specimen, collected by Hoedt on the island of Lettie. A second specimen, from the island of Dammer, I had the opportunity to see in the British Museum.

28. *Rhipidura uraniae* Oustalet.

Rhipidura uraniae Oust. Bull. Soc. Phil. Paris, Mars 1881.

Rhipidura atrigularis Rchw. J. f. O. 1885, p. 110.

An unsexed specimen, acquired from Verreaux 1865, and erroneously said to come from Australia.

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This specimen agrees very well with the short description of *R. atrigularis* given by Dr. Reichenow, with the exception of its smaller size which is somewhat inferior even to the measurements of the typical specimen of *R. uraniae*. From all its red-fronted allies this species is very easily distinguished by its black throat, leaving only the chin and a rather narrow moustachial streak white.

Crown, nape, hind neck, mantle and upper back earthy brown, forehead and a superciliary stripe, lower back, rump and upper tail-coverts cinnamonaceous, lesser wing-coverts and scapulars like the mantle, median and greater sepia-brown, edged with earthy brown and tipped with pale fulvous, forming a double row of this color, quills sepia-brown, the outer edge fringed with paler brown; tail black, all the feathers broadly tipped with pure white, extreme base of all the tail-feathers rufous, the centre ones to a greater extent than the outer pairs; lores, sides of face, ear-coverts and sides of neck as well as the whole throat and upper chest black, the black feathers on the lower end of this large gular patch edged with white, giving the chest a scaly appearance, the chin as well as a narrow line running from it along the cheeks onto the sides of the neck and joining the sides of the chest, white. Lower chest dirty white, breast and abdomen pale fulvous, deepening into a more intense fulvous on abdomen, vent, flanks and under tail-coverts. Thighs cinnamon, under wing-coverts white, edge of wing fulvous, inner lining of the quills ashy. Bill brown, with base of lower mandible white, feet pale brown. Wing 6,5 cm., innermost tail-feathers 7,9, outermost 5,7, tarsus 1,8, culmen 1,1.

The pale tips to the median and greater wing-coverts seem to me to indicate a certain stage of immaturity.

The typical specimen of this species is stated to come from the Marianne Islands (Freycinet), while the type of *R. atrigularis* has been collected on the Pelew Islands (Kubary).

29. *Rhipidura astrolabi* Oustalet.

Rhipidura astrolabi Oust. Bull. Soc. Phil. Paris, Mars 1881.

Hab. Vanikoro, New Hebrides.

30. *Rhipidura rubrofrontata* Ramsay.

Rhipidura rubrofrontata Ramsay, Proc. Linn. Soc. N. S. Wales, 1881, p. 23; Salvad. (partim) Orn. Pap. III, p. 532 (1882); Sharpe, Birds New Guinea, Vol. II, pl. 26 (1886).

An adult male from Guadalcanar, Solomon Islands.

This species is very closely allied to *R. rufifrons*, but at once distinguished by the lesser extent and darker tinge of red on the base of the tail-feathers as well as by the pure white instead of ashy white tips to all the tail-feathers.

31. *Rhipidura versicolor* Hartl. & Finsch.

Hab. Island of Uap, Mackenzie group.

32. *Rhipidura semirubra* Selater.

Hab. Admiralty Islands.

33. *Rhipidura russata* Tristram.

Rhipidura russata Tristr. Ibis, 1879, p. 440; id. 1882, p. 142; Salvad. Aggiunte Orn. Pap. p. 78 (1890).

Rhipidura rubrofrontata Salvad. (partim) Orn. Pap. III, p. 533.

Hab. San Christoval, Solomon Islands.

34. *Rhipidura rufifrons* (Lath.).

Nine specimens from different parts of Australia, amongst which there is one from Melbourne with all the tail-feathers tipped with rufous instead of ashy white.

35. *Rhipidura dryas* Gould.

Rhipidura dryas Sharpe, Birds of New Guinea, Vol. II, pl. 32.

One specimen from Coburg Peninsula, Australia.

36. *Rhipidura semicollaris* Müll. & Schleg.

Besides the three typical specimens from Timor and one

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from Samao, all four collected by S. Müller, the series contains another specimen from Timor (von Rosenberg) and one from Ombaai, the most eastern island of the Flores group.

37. *Rhipidura hamadryas* Sclater.

Rhipidura hamadryas Sclat. P. Z. S. 1883, p. 54; Sharpe, Birds of New Guinea, Vol. II, pl. 30.

An adult female from Timor Laut, collected by H. O. Forbes.

38. *Rhipidura celebensis*, n. sp.

An unsexed specimen, collected by Teysmann at Macassar, Celebes.

Very closely allied to *R. semicollaris* from the Timor group, but easily distinguished by the darker tinge of the earthy brown parts of the upper surface and the broader black band across the lower throat and chest.

Crown, hind neck, fore-part of mantle, lesser wing-coverts and thighs dark earthy brown, fore-head, hinder part of mantle, whole back, rump and upper tail-coverts rufous, quills and greater wing-coverts sepia-brown, edged with the color of the crown, tail blackish with the upper surface iron gray on both webs of the innermost pair and on the outer webs of the other pairs, the outer web of all the tail-feathers, except the outermost pair, red near the base, tips to all the tail-feathers white, more broadly so towards the outermost pair, on which the white of the tip is running at some distance towards the base on the edge of the outer web. Lores, sides of face, lower throat and chest black, the very lowest part of the latter with white edgings to the feathers, the very broad throat-patch separated from the black cheeks and ear-coverts by a white streak, extending from the chin onto the sides of the chest, breast and abdomen pure white, flanks, vent and under tail-coverts tinged with fulvous, under wing-coverts white, inner edge of quills ashy whitish. Bill dark

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brown, white at the base of the lower mandible, feet dark brown. Wing 6,6 cm., centre tail-feathers 8,5, outermost pair 6,2, tarsus 2, culmen 1,3.

39. *Rhipidura rufidorsa* Meyer.

A male from Karons, North West New Guinea, Coll. Bruyn.

40. *Rhipidura teysmanni*, n. sp.

An unsexed specimen, collected by Teysmann at Macassar, Celebes, 1878.

This species belongs to the group with the forehead, back and base of tail-feathers cinnamon-red, and *R. rufifrons* from Australia may be considered its nearest ally. From this latter, as well as from the other species of the mentioned group, it differs principally in the red of the basal part of the tail being much more widely distributed, fully occupying the two basal thirds and being as plainly visible on the under surface as on the upper, while in all the other species the tail, when closed, hardly will show any red region beyond the under tail-coverts.

Crown, sides of head, the neck and upper part of mantle olive-brown, front, back, rump, flanks, thighs, upper and under tail-coverts, the two basal thirds of all the tail-feathers above and below, cinnamon red. Upper wing-coverts and quills sepia-brown, the first broadly edged with olive-brown, the latter, with the exception of the outermost, broadly fringed with cinnamon, innermost secondaries olive-brown, both webs fringed with cinnamon, under wing-coverts fulvous, quills very broadly edged on the inside with vinaceous, especially the secondaries; the terminal third of tail-feathers about an inch in length in the innermost and somewhat less in the outer pairs, sepia-brown, for about half their length fringed on the inner and outer webs with the color of the basal two thirds, the two innermost pairs very narrowly, the outermost broadly tipped with ashy fulvous. The shafts of the tail-

feathers have the color of the accompanying parts of their webs, but the red on the basal part is running, though not very far, into the black terminal third. Chin and upper throat pure white, a rather narrow black bar without any white edgings to the feathers, across the chest, centre of breast and abdomen pale fulvous with a rather whitish tinge, rest of under surface cinnamon. Bill blackish, whitish at base, feet pale brown. Wing 6,9 cm., centre tail-feathers 8, outermost 6, tarsus 1,9, bill from front 1,2.

I am much pleased to name this fine species after its discoverer, the late Mr. Teysmann, who, besides his well-known botanical investigations throughout the Indian Archipelago, spent much time in enriching the ornithological collections of the Leyden Museum.

41. *Rhipidura lepida* Hartl. & Finsch.

An adult female from Pelew (Museum Godeffroy).

42. *Rhipidura brachyrhyncha* Schlegel.

Rhipidura brachyrhyncha Schleg. Ned. Tijdschr. voor de Dierk. IV, p. 42 (1873).

Rhipidura rufa Salvad. Ann. Mus. Civ. Genova, VII, p. 923 (1875); Sharpe, Cat. Birds Br. Mus. IV, p. 323; Salvad. Orn. Pap. II, p. 71 (1881).

A female, collected by von Rosenberg at Hattam, North West New Guinea, 1870.

As I have already pointed out when treating of *R. atra*, the birds considered to be *R. brachyrhyncha* by Meyer, Salvadori and Sharpe are not identical with *R. brachyrhyncha* Schleg., and it is by mistake that Salvadori states to have examined the type of the latter, which is still preserved unstuffed in the magazines of the Leyden Museum. Most likely Salvadori took our stuffed female of *R. meyeri* mihi for the type of Schlegel's *R. brachyrhyncha*, as this specimen bears the latter name in his hand-writing. Although Schlegel's description of *R. brachyrhyncha* is very

clear, and sharply pointing to the characters which make this species a near ally of *R. lepida*, I redescribe it here in extenso:

Head, mantle and lesser wing-coverts dusky fulvous, superciliary streak and nuchal region tinged with ferrugineous, back, rump and upper tail-coverts deep ferrugineous, quills and greater wing-coverts sepia-brown, both margined with the color of the back, giving the whole wing a rusty appearance. Tail dark brown, with glossy red shafts, extreme base of the centre tail-feathers and of the outer web of the others ferrugineous, with which color the outer webs of all the tail-feathers are fringed nearly down to the end; tips of all the tail-feathers at the length of about half an inch deep bay, making the tail, when seen from underneath, like that of *R. lepida*, with the exception that in the latter the red tips are longer and the red is running along the whole outer edge of the outermost pair, while in *R. brachyrhyncha* the outermost pair is not edged with red exteriorly. The underparts of the bird are pale grayish fulvous, more intensely fulvous on breast and abdomen, and cinnameous on the under tail-coverts. Under wing-coverts fulvous, inner lining of the quills vinous bay, bill very short and pale, lower mandible, with the exception of the darker tip, white, feet and claws pale yellow. Wing 6,4 cm., tail 8,7, tarsus 1,9, culmen 1,1.

The essential differences between *R. brachyrhyncha* Schl. and *R. meyeri* mihi (= *R. brachyrhyncha* auct. nec Schl.) are to be sought for in the color of the tail, which in the first species is dark brown with red base and red tips, while in the second the centre tail-feathers are entirely black, the outer entirely cinnameous.

43. *Rhipidura cinnamea* ¹⁾ Meyer.

Rhipidura brachyrhyncha (nec Schleg.) Meyer, Sitzb. k. Akad. d. Wiss. Wien, LXIX, p. 501 (1874); Sharpe, Cat. B. Br. Mus. IV,

1) See the observations about this species antea, under the heads *R. atra* and *brachyrhyncha*.

p. 316 (description of the female); Salvad. Ann. Mus. Civ. Genova, XIV, p. 500 (1879); Orn. Pap. II, p. 72 (♀).
Rhipidura cinnamomea Meyer, Zeitschr. f. ges. Orn. III, p. 17, pl. III, fig. 3 (1886).

A female collected by Bruyn, and an unsexed specimen collected by Woelders, both from Arfak, N. W. New Guinea.

General color cinnamon, somewhat paler below than above, especially on chin and throat, which are pale fulvous. Crown and hind neck tinged with olive; quills and wing-coverts dark brown, edged with the color of the back, under wing-coverts and inner edge of quills cinnamon. Three outermost pairs of tail-feathers uniform cinnamon, the fourth pair cinnamon on the outer, black on the inner web, the two innermost pairs entirely black. Bill very short, the bristles reaching beyond the tip, upper mandible black, lower white, feet pale flesh-color. Wing 7,1 cm., tail 8, outermost pair 6, tarsus 2, culmen 1,2.

In the distribution of the colors on the tail-feathers this species agrees with the two following: *R. cyaniceps* and *albiventris*, but there seems to occur some individual difference, probably due to age. While in our above described specimen the fourth tail-feather has the inner web entirely black, the other specimen has one of the feathers of the fourth pair nearly almost black on the inner web, while the other feather of the same pair has only a basal part of the inner web black and the whole rest cinnamomeous. In the specimen erroneously described by Dr. Meyer as *R. brachyrhyncha* (Sitzb. Wien, LXIX, p. 501) the black on the tail-feathers seems, on the other hand, to be more widely distributed, as it occupies not only the whole outer web of the fourth pair, but also the edge of the inner web of the third and the base of the inner web of the second, leaving only the first (outermost) pair entirely red. Dr. Meyer's type is the first male which is as yet known of this hitherto wrongly understood species.

Salvadori (Aggiunte Orn. Pap. 1890), considering *R. cinnamomea* to differ specifically from what he says to be

the female of *R. brachyrhyncha*, believes the first named form to be the female of the black *R. fallax* Ramsay, thus forming a case analogue to his *R. brachyrhyncha*, in which the red female is also said to belong to a black male (*R. atra*).

44. *Rhipidura cyaniceps* (Cass.).

One specimen from the Philippine Archipelago.

45. *Rhipidura albiventris* (Sharpe).

One specimen from Guimaras, Philippine Archipelago.

46. *Rhipidura fusciorufa* Sclater.

Rhipidura fusciorufa Sclat. P. Z. S. 1883, p. 197, pl. XXVII.

Two specimens from the Tenimber group of Islands.

This is the first of a group of three large-billed species, which are in some way related with the small-billed forms *R. cinnamomea*, *R. cyaniceps* and *R. albiventris*, having the two centre tail-feathers uniform black, while the outer pairs are pale, at least on their outer webs, and never tipped with rufous or white. Upper surface earthy brown, head darker, a white spot above the eye, median and greater wing-coverts and secondaries, especially the innermost, broadly margined with pale rufous, two innermost pairs of tail-feathers black, the next pair black with rufous edge and tip, three outermost pairs entirely pale rufous, chin and throat white, chest-feathers gray at base, with very large white tips, giving the whole chest a white appearance like in the preceding species, rest of under surface, including the under wing-coverts, pale rufous.

47. *Rhipidura diluta* Wallace.

Rhipidura diluta Wall. P. Z. S. 1863, p. 491.

One specimen from Flores.

Upper surface grayish brown, forehead much darker, wing-coverts and secondaries edged with dark rufous,

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three central pairs of tail-feathers uniform brown, next pair with paler tip, two outermost pairs dirty whitish, darker at the base of the inner web, chin, throat and a narrow line from the nostril above the eye white, chest and sides of body ashy brown, rest of lower surface including the under wing-coverts ashy fulvous. Bill narrower than in the allied species.

48. *Rhipidura sumbawensis*, n. sp.

Two specimens from Sumbawa, presented by Mr. van Lansberge, 1882.

Closely allied to *R. diluta*, but with much broader bill, with the upper surface much paler brown, the quills edged with very clear rusty red, the three outermost pairs of tail-feathers more fulvous, less ashy than in *R. diluta*, and the lower surface much more strongly tinged with fulvous.

Forehead and lores blackisch, crown rufous brown, whole back and rump pale earthy brown with no grayish tinge at all, upper tail-coverts darker; upper wing-coverts like the back, median and greater as well as the primary coverts externally edged with rufous, quills brown, broadly margined with clear rusty red. Three innermost pairs of tail-feathers uniform sepia-brown, paler than in *R. diluta*, fourth pair broadly tipped with fulvous, fifth pair fulvous nearly up to the base, the outermost pair entirely fulvous with much paler outer web. Throat and a streak from the nostril above the eye white, duller in younger specimens, rest of under surface pale fulvous, somewhat tinged with ashy, under wing-coverts and thighs uniform clear fulvous, inner edge of quills vinous red. Bill broad, black, paler at base of lower mandible, feet flesh-color, iris black. Wing 8 cm., tail 8,7, outermost pair 7,3, bill 1,4, tarsus 2. A probably younger specimen is smaller, the wing having 7,4, the tail 8 cm.

The comparison of our Sumbawa specimens with four specimens of *R. diluta* from Flores in the British Museum,

amongst which the type of the species, convinced me that the first really belongs to a new, hitherto overlooked species.

49. *Rhipidura threnothorax* Müll. & Schleg.

Rhipidura threnothorax Müll. & Schleg. Verh. Land- en Volkenk. p. 185 (1839—44); Meyer, Sitzb. k. Akad. d. Wiss. Wien, LXIX, p. 212 (1874); Sharpe, Cat. B. Br. Mus. IV, p. 325 (1879); Salvad. Orn. Pap. II, p. 54 (1881).

Rhipidura fumosa Schleg. Ned. Tijdschr. voor de Dierk. IV, p. 42 (1873); Salvad. Orn. Pap. II, p. 56 (1881).

Rhipidura ambusta Ramsay (teste Sharpe and Salvadori).

This species, with which I unite, in accordance with Dr. Sharpe, *R. fumosa* Schleg., is easily distinguished from all its congeners with white-spotted breast by its uniform sooty black tail. I have before me a series of five specimens, each in a different dress, which, as I think, we have to consider as so many different stages of age, of which it will be useful to give here a short description.

a. First stage: Young female from Jobi, collected by von Rosenberg, April 23rd 1869 (type of *R. fumosa* Schleg.). Above dark olive-brown, hind neck, mantle and back strongly tinged with rusty, rump, upper tail-coverts, abdomen, vent, thighs, under tail-coverts and tail sooty black; wing-coverts and quills dark smoky brown, under wing-coverts somewhat paler; chin, throat and a superciliary stripe white; chest, breast and flanks pale olive-brown, the upper chest with numerous hidden, small whitish spots, which, I think, will be the beginnings of the larger and purer white spots of the more developed stages of plumage. The bill is also showing a mark of immaturity, the lower mandible being white with a partially black tip, while it is, as a rule, pure white in the adult bird. The upper mandible as well as the feet are in all stages blackish brown. The wing, compared with the more advanced stages, is very short, measuring only 7 cm., tail 9, tarsus 2.1, culmen 1.5.

This or a perhaps somewhat more advanced stage is

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described by Dr. A. B. Meyer in the above cited Sitzungsberichte.

b. Second stage: Female, collected by S. Müller, together with the typical specimen at the bay Lobo, S. W. New Guinea. General color above and below considerably much paler than in specimen *a*, probably owing to its having, as a stuffed specimen, been much more exposed to the light. The white on chin and throat extending upon the cheeks, the chest grayish olive instead of olive-brown, each feather bearing, in its centre, a large cordiform dirty white spot of four millimetres in width. No black at all on the chest, the outermost of the under wing-coverts edged with white, lower mandible white with a blackish mark near the tip. Wing 7,5 cm., tail 9,4, tarsus 2,2, culmen 1,5.

c. Third stage: Female, collected by Bernstein at Sorong, January 20th 1865. Differs from the preceding specimen in having the head and back less tinged with rufous, in being more ashy olive on chest and breast and in having the cordiform spots much purer white and on most of the feathers, especially near the throat, encircled with black. Under wing-coverts as in the previous specimen. Hardly any black at the tip of lower mandible. Wing 8 cm., tail 9,2, tarsus 2, culmen 1,7.

d. Fourth stage: An unsexed specimen from New Guinea (Frank, 1873). Similar to the former specimen, but having the white spots on the chest very large with all the surrounding parts of each feather entirely black, while many of the grayish olive breast-feathers, especially on the centre of the breast, bear concealed white, cordiform spots without black surrounding. Under wing-coverts very conspicuously tipped with white, and some of the outermost lesser wing-coverts also tipped with white. Lower mandible entirely white. Wing 8 cm., tail 9,8, tarsus 2,3, culmen 1,7.

e. Fifth stage(?). Type of the species (σ^7), collected by S. Müller at the bay Lobo, S. W. coast of New Gui-

nea. Similar to the former specimen, but the white spots on the black chest very much smaller, hardly two millimetres broad, and drop-shaped, very narrow at the base, becoming broader and round at the end, none of them cordiform as in the preceding specimens. Some of these white drop-shaped spots are found, partially visible, partially hidden, on the ashy olive feathers of the breast. Lower mandible entirely white. Wing 8 cm., tail 8,6, tarsus 2,2, culmen 1,5.

It is not without some hesitation that I unite this specimen, the type of the species, with the four former ones, the difference in form and size of the white spots on the chest being so very striking; but on the other hand the large-spotted specimen, described above as the second stage, is found by S. Müller together with the small-spotted typical specimen, and considering, moreover, the fact that in the allied *R. maculipectus* the small and the large form of white spots are found in one and the same individual, it would be rather venturous to base a new species upon the difference in size of the white chest-spots only.

The British Museum contains a specimen similar to stage four from Salwati, another from »New Guinea» and one from the Astrolabe Mountains, which latter is the form described as *R. ambusta* by Ramsay.

50. *Rhipidura rosenbergi*, n. sp.

A female, collected by von Rosenberg at Wonoembaai, Aru, agrees with the preceding species in the olive-brown upper surface, the uniform sooty black tail, the entirely white throat and the black, white-spotted chest, but differs from it in having below the white throat the whole under surface sooty black, almost as intense as the chest, and not only is the chest, but also the breast, spotted with white. These two latter characteristics make it a near ally of *R. maculipectus*, from which it is, however, distinguished by the olive-brown upper surface, the uniform black tail and the entirely white throat.

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Crown, hind neck and mantle and back olive-brown, the latter somewhat tinged with rufous, the rump darker, upper tail-coverts, tail, flanks, abdomen, thighs and under tail-coverts sooty black, the outermost tail-feathers with a very slight indication of a white tip; lesser wing-coverts and some of the median blackish, tipped with white, rest of the wing-coverts and all the quills smoky brown, narrowly fringed with paler brown on the outer webs; under wing-coverts sooty brown, tipped with white; chin, cheeks, entire throat, front and a broad superciliary stripe pure white, the latter bordered at its upper edge with deep black, strongly contrasting with the olive-brown crown; lores, a streak underneath the eye, and ear-coverts sooty black; chest and breast pure black with a large heart-shaped, pure white spot towards the end of each feather, only the upper region of the chest the white spots are wanting on some feathers, while they are smaller and more drop-shaped on the others. Bill black, lower mandible white, blackish at the tip, feet dark brown. Wing 8 cm., tail (incomplete) 9,8, outermost pair 8, tarsus 2,4, culmen 1,5.

This form might be considered to be a very old stage of *R. threnothorax*, in which the whole lower surface had become entirely black, but the black tip to the lower mandible shows that the bird cannot be very old, moreover the species *threnothorax* is not known as yet to live on the Aru Islands. In the British Museum I had the opportunity of seeing a specimen from Aru, which is somewhat paler brown on breast and abdomen than our typical specimen, and I think not to be wrong when considering the lower surface in the immature stages to be darker than in *R. threnothorax*, and more approaching the young of *R. maculipectus*.

51. *Rhipidura maculipectus* G. R. Gray.

Rhipidura maculipectus G. R. Gray, P. Z. S. 1858, p. 176; Sharpe, Cat. B. Br. Mus. IV, p. 326; Salvad. Orn. Pap. II, p. 56 (1881).

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Rhipidura saturata Salvad. Ann. Mus. Civ. Genova, XIV, p. 497 (1879); Orn. Pap. II, p. 58 (1881).

Four specimens (males and females) from Aru (von Rosenberg, 1865), a male from Haruko, a small island east from Amboina (Hoedt, 1863), one specimen from Mysol (von Rosenberg, 1866), two specimens from Salwati (Bernstein, 1863), a young female, the type of *R. saturata* Salvad., from Salwati (Bernstein, 1863) and two males from Sorong, New Guinea (Bernstein, 1864).

In accordance with Dr. Sharpe I consider the female specimen in our Museum, described as *R. saturata* by Count Salvadori, to be the immature stage of *R. maculipectus*, a stage showing very much analogy with that of *R. threnothorax*, described as *R. fumosa* by Schlegel. This analogy consists especially in the uniform color of the plumage, the shortness of the wing (7,2 cm. instead of 8,2), the black tip to the lower mandible and the nearly unspotted chest, while the white-tipped tail, the black throat and the sooty brown general color at once indicate its belonging to *R. maculipectus*. *R. fumosa* and *R. saturata* once admitted as the young stages of *R. threnothorax* and *R. maculipectus*, the idea must entirely be abandoned that the form I described above under the name of *R. rosenbergi*, after all might turn out to be some immature stage of *R. maculipectus*.

52. *Rhipidura tenebrosa* Ramsay.

Rhipidura tenebrosa Ramsay, Proc. Linn. Soc. N. S. Wales, VI, p. 835 (1881); Salvad. Orn. Pap. III, p. 535.

Hab. Solomon Islands.

53. *Rhipidura leucothorax* Salvadori.

Rhipidura episcopalis Salvad. Ann. Mus. Civ. Genova, VI, p. 311 (1874); Sharpe, Birds of New Guinea, Vol. II, pl. 26.

Rhipidura episcopalis Ramsay, Proc. Linn. Soc. N. S. Wales, II, pp. 371 and 377 (1878).

Four specimens from Sorong and Andai, N. W. New Guinea.

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This species has, as a rule, the chin black like the throat, but one of our specimens, as well as the only specimen of this species in the British Museum has the chin white.

54. *Rhipidura euryura* S. Müller.

Leucocerca euryura Salvad. Ucc. di Borneo, p. 136 (1874).

Neomyias euryura Sharpe, Cat. B. Br. Mus. IV, p. 342 (1879).

Three typical specimens from Java (Müller and Boie); a fourth specimen from Java and another from Sumatra, in which latter island this species was not known to be found as yet.

This species is easily known by its nearly uniform bluish gray color, having only the eyebrow, abdomen, under tail-coverts and a very small tip to the outermost tail-feather white.

55. *Rhipidura perlata* S. Müller.

Male and female (types), collected by S. Müller in Sumatra, and three specimens from Borneo.

These specimens, though all apparently adult, differ very much in size, the wing of the smallest specimen from Borneo being 7,9 cm., the largest 8,6, which is also the size of the typical specimens from Sumatra.

Whole upper surface bluish gray, chin, throat, chest and flanks sooty black, breast, abdomen and under tail-coverts white, the throat provided with narrow white shaft-streaks and the chest with large drop-like spots of the same color. Tail black, the three outer pairs of feathers very broadly tipped with white.

56. *Rhipidura tenkatei* Büttikofer.

The typical specimen from the island of Rotti (see N. L. M. 1892, p. 205). This species differs from *R. buruensis* by the large white tips to the two outermost pairs of tail-feathers.

57. *Rhipidura buruensis* Wallace.

Seven specimens, collected by Hoedt and Teysmann on the island of Bouru. This species is easily known by its ochraceous abdomen and under tail-coverts and the dirty white outer webs of the outermost pair of tail-feathers, while the rest of the tail is uniform sooty brown.

58. *Rhipidura cinerea* Wallace.

Hab. Ceram.

This species is distinguished by its uniform sooty black tail.

59. *Rhipidura lenzi* Blasius.

Rhipidura lenzi Blas. J. f. O. 1883, p. 145 (Celebes); Meyer, Isis, I, p. 26 (1884); Forbes, P. Z. S. 1884, p. 431 (Amboyna); Salvad. Aggiunte alla Orn. Pap. pt. II, p. 77 (1890).

Two males from Ceram(?) with the manuscript name of *R. forsteni* Temm. ¹⁾, and a female from Amboyna, collected by Hoedt in 1866.

All three specimens agree in their coloration with the description as given by Dr. Blasius, only would it be better to choose, for the general color, the expression *saturate cinerea* instead of *cinereo-nigra*. Dr. Blasius' bird is also a little larger than the three specimens in our Museum, but the individual difference in size in this group being rather considerable, this larger size is of hardly any specific value.

Type specimen, said to be from

North Celebes	wing 9,3 cm.	tail 9,0 cm.
Specimens said to be from Ceram	» 8,9 »	» 8,4 »
Specimen from Amboyna . . .	» 8,6 »	» 8,2 »

Another specimen from Amboyna, collected by H. O. Forbes and now in the British Museum, is of the same size, the wing measuring 8,5, the tail 8,2 cm.

1) Salvadori, Orn. Pap. II, p. 64, erroneously identified *R. forsteni* with *R. cinerea* Wall.

Dr. A. B. Meyer, in his above quoted paper, developes the reasons for which he does not believe in Celebes being the habitat of *R. lenzi*, and not having seen any specimens of this species himself, he utters some doubts as to its specific value, the more as it is closely allied to *R. buruensis* and *R. cinerea*. I fully share Dr. Meyer's doubts as to the localities and believe Amboyna to be the only well-ascertained habitat of this species. Whether our two Ceram birds, which were acquired more than fifty years ago, are really from Ceram or not, is hard to say, and therefore I should not lay too much weight upon this locality, which, moreover, is the habitat of the very closely allied species *R. cinerea* Wall. This latter species, the type and only known specimen of which I examined in the British Museum, has the whole tail plain sooty black (all the twelve tail-feathers are present), whereas *R. lenzi* differs from it in having the terminal half of the outer web of the outermost tail-feather white.

R. lenzi in the British Museum differs from the specimens in our Museum in having the tip of the inner web of the outermost tail-feather also white. Count Salvadori, l. c., leans to the opinion that *R. lenzi* might be identical with *R. cinerea*, but for the above mentioned reason, I hardly think that this opinion will turn out to be correct.

60. *Rhipidura hoedti*, n. sp.

An adult female from the Island of Lettie, Timor group of islands, collected by the Dutch Naturalist Hoedt, May 24th 1866.

Closely allied to *R. tenkatei*, from which it differs, however, by the longer white tips to the two outermost pairs of tail-feathers and the pure white throat. It stands also near *R. isura*, from Australia, but is so much darker that it cannot be confounded with this latter species.

Above dark gray, darker on the head and nearly black on the front, back faintly tinged with brown, upper tail-coverts and tail sooty brown, tip of the outermost pair

at the length of an inch pure white, the outer web white up to the distance of an inch from the base; next pair with a large white spot at the tip, edged on the outer web with the color of the basal part; third pair with a very narrow wedge-shaped spot on the outer web near the shaft. Wings brown, coverts and quills edged with olive-brown, greater and median coverts tipped with white, forming a double row of white, inner secondaries edged and tipped with white, as in *R. setosa*, under wing-coverts ashy fulvous, inner edge of quills vinous gray, sides of head blackish, a distinct spot above the eye silky white, chin and throat pure white, chest pale ashy gray, with well-defined, somewhat black edged, lanceolate spots of white, flanks uniform ashy gray, centre of breast dirty white, abdomen and vent very pale ochre, under tail-coverts pure white, thighs dark gray, spotted with white. Bill entirely black, feet sooty brown. Wing 8,4 cm., tail 8,7, outermost pair 7,7, tarsus 1,8, culmen 1,5.

61. *Rhipidura vidua* Salvadori.

Hab. Koffiau.

62. *Rhipidura setosa* (Quoy & Gaim.).

A great series from the Waigiou Archipelago (Guebeh, Gagie, Waigiou, Salwati, Mysol), from New Guinea (Bay Lobo, types of *R. gularis* Müll.), Seleh, Sorong, Dorey, Andai, Warbusi, Doktor) and the Bay of Geelvink (Meosnoum and Jobie).

This species is characterized by its ashy gray upper surface with darker head, the sooty brown upper tail-coverts and by the black tail having the outermost pair and sometimes also the next one tipped with white, the white reaching up halfway to the base on the outer web of the outermost pair, further by the superciliary streak, whole chin and throat, centre of breast and under tail-coverts, being pure white; chest ashy gray, some of the feathers with white shaft-streaks, abdomen buffy white.

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63. *Rhipidura kordensis* Meyer.

Rhipidura kordensis Meyer, Sitzb. k. Akad. Wien, LXX, p. 201 (1874).

Three specimens from Soëk, Geelvink Bay.

Closely allied to the large-billed *R. setosa*, from which it is distinguished by the black head and chest, and the white (instead of fulvous) breast, abdomen and under tail-coverts.

64. *Rhipidura obiensis* Salvadori.

Rhipidura obiensis Salvad. Orn. Pap. II, p. 59.

Rhipidura sp. Bernst. Ned. Tijdschr. Dierk. II, p. 135 (1865).

Nine specimens from Obi major and one from Obi lattu (Obi Islands).

Closely allied to the white-bellied *R. kordensis*, but having the chest more ashy, and the secondaries broadly edged with white on the outer web. From *R. finschi*, with which it agrees as to these white edgings, it is distinguished by its white instead of fulvous breast, abdomen and under tail-coverts.

65. *Rhipidura finschi* Salvadori.

Rhipidura finschi Salvad. Orn. Pap. III, p. 532.

A male from New Britain, and another from Duke of York Island.

66. *Rhipidura assimilis* Gray.

Six specimens from the Key Islands, three from Matabello and one, erroneously as I think, said to be from Mysol (von Rosenberg).

This species is at once distinguished from the other species of the *setosa*-group by a well-defined white superciliary stripe, beginning at the nostrils and ending at some distance behind the eye, while the other species have only a patch of silky white above the eye.

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67. *Rhipidura isura* Gould.

Rhipidura isura Gould, P. Z. S. 1840, p. 174.

Rhipidura setosa (nec Quoy & Gaim.) Sharpe, Cat. Birds Br. Mus. IV, p. 329; (?) Salvad. Orn. Pap. II, p. 61.

An immature specimen from Australia, received from Gould, and an adult specimen from Port Essington, collected by Cockerell.

This species is undoubtedly fully entitled to specific rank, as it is easily distinguished from *R. setosa* by its dull earthy brown upper surface, by the white shaft-streaks on the much paler and narrower chest-band, and more especially by the greater extent of the white color on the tail-feathers. Amongst *R. setosa* the specimens with the greatest extent of white on the outermost tail-feathers (2 cm.) are those from the island of Guebeh, which birds have the white tips to the second pair much more strongly developed than those from any other locality. In the Australian specimens the white tip to the outermost pair is still longer, measuring 2,4 cm., and the white on the outer web is reaching nearer up to the base than in *R. setosa*. The white tip to the second pair is not longer than in our birds from Guebeh (1,5 cm.), but the third pair is, though very narrowly and in much worn tails not at all, tipped with white, a peculiarity already stated by Gould, whereas in none of our 30 specimens of *R. setosa* the slightest indication of such a tip can be found.

Our immature specimen represents a very interesting stage of plumage, having the upper surface earthy brown, the feathers of the back narrowly, the upper tail-coverts very broadly tipped with fulvous, wing-coverts and quills earthy brown, the median and greater coverts broadly tipped with buffy white, thus forming a double bar; tips to primary coverts as well as broad edges and tips to the secondaries dull white.

68. *Rhipidura rufiventris* (Vieill.).

Three specimens, the three types of *R. ochrogastra*

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Müll. & Schl., and two others, presented by von Rosenberg, all five specimens from Timor.

Upper surface gray, head black with a white patch above the eye, chin and throat white, feathers of the chest gray at the basal half, and so largely tipped with white that hardly any gray can be seen except on the sides of the chest on which the feathers are less tipped with white, breast, flanks, abdomen and under tail-coverts pale fulvous, tail black, outer web of first pair white nearly up to the base, inner web as well as the whole second pair tipped with white at more than an inch in length, the third pair with a narrow white tip near the shaft.

69. *Rhipidura javanica* (Sparrm.).

Eight specimens from Java, two from Sumatra, two from Banka, three from southern Borneo and a not fully adult specimen from »Indes orientales».

This is the only large-billed form with uniform gray chest, having the four outermost pairs of tail-feathers tipped with white. The immature female is much paler brown than the adult and has the wing-coverts broadly tipped with fulvous. The chest-band is very narrow and, even as the sides of the breast, earthy brown instead of gray.

70. *Rhipidura pectoralis* (Jerdon).

An adult male from the Indian Continent.

71. *Rhipidura nigritorquis* Vigors.

Five specimens from the Philippines and the Sulu Archipelago.

This large white-throated species is easily recognized by its very narrow black chest-band and having all but the innermost pair of tail-feathers broadly tipped with white.

72. *Rhipidura auricularis* De Vis.

Rhipidura auricularis De Vis, Ibis, 1891, p. 30.

Hab. Musgrave Range, S. E. New Guinea.

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73. *Rhipidura albifrontata* Franklin.

Three specimens from the Indian Continent.

Distinguished from all its congeners by the very broad pure white front and superciliary stripes, leaving only a narrow space on the centre of the crown black; throat black, rest of under surface white. All but centre tail-feathers broadly tipped with white, outer web of outermost pair entirely white.

74. *Rhipidura cockerelli* Ramsay.

Rhipidura cockerelli Ramsay, P. L. S. New South Wales, VI, p. 181 (1881); Sharpe, Birds of New Guinea, Vol. II., pl. 28.

Sauloprocta (?) *cockerelli* Salvadori, Orn. Pap. III, p. 531.

An adult male from Guadalcanar, Solomon Islands.

Upper surface, throat, chest and breast black, abdomen, under tail-coverts, numerous drop-shaped spots on the chest, a superciliary spot and the outer webs of inner secondaries pure white. Tail uniform black, nearly square.

75. *Rhipidura melaleuca* (Quoy & Gaim.).

Rhipidura tricolor (Vieill.) N. Dict. d'Hist. Nat. XXI, p. 490; Sharpe, Cat. B. Br. Mus. IV, p. 339.

Sauloprocta melaleuca Salvad. Orn. Pap. II, p. 48.

A series of about sixty specimens from Morotai, Halmahera, Ternate, Tidore, Motir, Batchian, Obi, Bouru, Amboyna, Ceram, Goram, Poulo Padjang, Aru, Mysol, Guebeh, Waigiou, New Guinea, Meosnoum, Duke of York, Cape York.

This species being only black and white, I fully agree with Count Salvadori, who rejected the oldest name (*tricolor*) in favor of the second (*melaleuca*), but on the other hand I could not find sufficient reason to separate it generically from *Rhipidura*.

Two nestlings of this species differ from the adult in having the upper wing-coverts narrowly tipped with brown and the superciliary streak as well as vent and under tail-coverts washed with fulvous.

Leyden Museum, September 1892.

NOTE V.

UEBER
DAS VORKOMMEN DER MELLIVORA INDICA KERR
IM TRASCASPI-GEBIET

VON

EUG. BÜCHNER,Conservator am Zoologischen Museum der Kaiserl. Akademie der
Wissenschaften zu St. Petersburg.

Herr N. Sarudny, der in diesem Jahre seine Zoologischen Untersuchungen im russischen Trascaspi-Gebiete von Neuem aufgenommen hat, schickte unlängst an das Zoologische Museum der Kais. Akademie der Wissenschaften zu St. Petersburg unter anderen Objecten auch den Balg einer *Mellivora*-Art ein, welcher in der Tedshen-Oase (im Thale des Unterlaufes des Tedshen, in der Nähe von Kara-Bend) erbeutet worden war. Ueber diesen Fund habe ich sogleich der Kais. Akademie der Wissenschaften in der Sitzung von 27 Mai berichtet, und erlaube mir hier auf denselben zurückzukommen in Anbetracht des hohen Interesses, den derselbe in zoogeographischer Beziehung beanspruchen darf.

Nach eingehender Untersuchung erwies sich der von Herrn Sarudny eingeschickte Balg als zur Art *Mellivora indica* Kerr gehörig. Ich halte es zunächst für nöthig diese Identificirung näher zu begründen, zu welchem Zwecke ich hier kurz das Resultat eines Vergleiches dieses Exemplares aus Trascaspien mit den vorhandenen Beschreibungen und Abbildungen der indischen Art mittheile.

Die charakteristische Vertheilung der schwarzen und

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weisslichen Färbung auf dem Körper des Balges aus Transcaspien stimmt vollständig mit der Zeichnung der *M. indica* überein; auch die Linie, welche die auffallende scharfe Grenze zwischen der hellen Rückenfärbung und der einfarbigen schwarzen Färbung des ganzen Unterkörpers bildet, verläuft bei unserem Exemplare in ganz ähnlicher Weise, wie bei der indischen Art. Die helle Rückenfärbung unseres Exemplares stimmt gleichfalls mit den Beschreibungen derselben bei *Mellivora indica* überein, da die Färbung der Oberseite dieser letzteren beispielsweise von Jerdon (Mammals of India, p. 79) und Murray (The Vertebrate Zoology of Sind, p. 32) als »tawny white'' oder »light gray'', und von Blanford (The Mammals of British India, p. 176) gleichfalls als »light grey'' oder »whitish grey'' angegeben wird; jedenfalls hat diese helle Färbung auf der Oberseite meines Balges nichts gemein mit der sehr dunkelgehaltenen Rückenfärbung, wie sie Wolf (Zoological Sketches, II, tab. IX) auf seiner Abbildung der *Mellivora indica* gegeben hat und wie sie auch mit den Beschreibungen der indischen Zoologen im Widerspruche steht ¹⁾. Die weissliche Färbung des Rückens geht auch auf

1) Ich möchte noch bemerken, dass der in Rede stehende Balg aus Transcaspien, namentlich in der Färbung seines Rückens, ganz vorzüglich auf die Abbildung der *Mellivora leuconota* Selater (Proc. Zool. Soc. London, 1867, tab. VIII) passt; ganz ebenso trifft auf unser Exemplar auch eine spätere Bemerkung von Selater (Proc. Zool. Soc. London, 1871, p. 232) zu, laut welcher beim Originale der *Mellivora leuconota* der Hinterrücken mehr grau erscheint, während der Kopfplatte von beinahe rein weisser Färbung ist. Da *Mellivora leuconota* aus West-Africa stammt und sich nach späteren Untersuchungen von Selater von *Mellivora indica* kaum unterscheiden lässt, so gelangt dieser Forscher zum Schluss, dass die Gattung *Mellivora* wohl nur eine einzige Art aufzuweisen hat. Diese Schlussfolgerung kann nicht als richtige bezeichnet werden, denn wenn auch Selater die Identität der *Mellivora leuconota* mit *Mellivora indica* klargelegt hat, so ist er uns doch noch die Beweise schuldig geblieben, dass auch *Mellivora ratel* Sparrm. (= *Mellivora capensis* Desm.) von *Mellivora indica* specifisch nicht verschieden ist. Es wird jedenfalls erst künftigen Forschungen vorbehalten bleiben, die Frage über die artliche Selbstständigkeit des afrikanischen und des asiatischen Vertreters dieser Gattung zu lösen; sollte sich meine Voraussetzung bewahrheiten, dass nämlich das Verbreitungsgebiet der Gattung *Mellivora* ein zusammenhängendes ist, so wurde dieser Umstand dafür sprechen, dass die verschiedenen, beschriebenen *Mellivora*-Arten conspezifisch sind.

den Schwanz über und nimmt den weitaus grössten Theil seiner Oberseite ein, doch bleibt bei unserem Exemplare die Schwanzspitze schwarz, ganz ebenso wie dieses nach Hardwicke (Transactions of the Linnean Society, IX, p. 115), Blanford und Anderen auch bei *Mellivora indica* der Fall ist. Auch in allen übrigen Charakteren, wie die sehr dünne Behaarung des Bauches, die sehr bedeutende Stärke der Krallen am Vorderfusse, das Fehlen des Wollhaares u. s. w., stimmt unser Exemplar aus Transcaspien vollständig mit *Mellivora indica* überein.

Was endlich der Grösse und Schwanzlänge unseres Balges anbetrifft, so weist derselbe eine Körperlänge (von der Nasenspitze bis zur Schwanzwurzel) von 680 mm. auf, neben einer Schwanzlänge (mit den Endhaaren gemessen) von 170 mm.; doch sind diese Maassangaben nur sehr approximative, da die Präparation und der jetzige Zustand des Objectes eine mehr oder weniger sichere Ausmessung desselben nicht ermöglicht. Nichtsdestoweniger zeigen uns doch diese Maasse, dass unser Exemplar auch in der Grösse und in Verhältniss der Schwanzlänge zur Körperlänge mit *Mellivora indica* übereinstimmt, da nach den Angaben von Hodgson, Jerdon, Murray und Sternedale die Körperlänge dieser letzteren c. 661—812 mm. (= 26—32 inches) und die Schwanzlänge c. 126—165 mm. (= 5—6½ inches) beträgt. Unsere vergleichende Untersuchung führt uns auf diese Weise zum Resultate, dass der Balg des Honigdaches aus dem Transcaspi-Gebiet unzweifelhaft zu *Mellivora indica* gehört.

Mellivora indica ist bekanntlich ein charakteristischer Repräsentant der indischen Fauna und erstreckt sich ihre Verbreitung über ganz Indien, vom Fusse des Himalaya bis zum äussersten Süden; nur auf der Malabar-Küste, in Unter-Bengalen und auf Ceylon kommt dieser Honigdachs nicht vor. Oestlich reicht der Verbreitungsbezirk der *Mellivora indica* bis zur Bay von Bengalen, während ihr Vorkommen westlich bis nach Sind nachgewiesen war.

Das nun constatirte Vorkommen der *Mellivora indica* in

unserem Transcaspi-Gebiete muss demnach unser Interesse im hohen Grade erregen, schon allein aus dem Grunde, weil das Verbreitungsgebiet dieser Art durch den erwähnten Fund um ein sehr Bedeutendes nach Westen hin erweitert wird. Andererseits macht dieses Vorkommen der *Mellivora indica* in Transcaspien es sehr wahrscheinlich, dass auch die nicht näher bestimmte *Ratelus* (= *Mellivora*)-Art, welche nach Schmarda (Die geogr. Verbreitung der Thiere, Abth. II, p. 408) in Mesopotamien vorkommt, gleichfalls zu *Mellivora indica* gehört¹⁾.

Die Gattung *Mellivora* nimmt bekanntlich zwei, weit auseinander gelegene und scheinbar vollständig getrennte Verbreitungsgebiete — Indien einerseits und Mittel- und Süd-Afrika andererseits — ein. Diese beiden Verbreitungsbezirke werden jetzt durch den Fund der *Mellivora indica* in Transcaspien und durch das nun sehr wahrscheinlich gemachte Vorkommen dieser Art in Mesopotamien einander viel näher gerückt und ist es daher anzunehmen, dass noch weitere Forschungen diese beiden Verbreitungscentren vollständig überbrücken und zu einem einzigen, zusammenhängenden Verbreitungsgebiet der Gattung *Mellivora* gestalten werden.

St. Petersburg, September 1892.

1) Blanford (Eastern Persia, II, p. 46) glaubte diese Angabe von Schmarda auf den von ihm aufgestellten *Meles canescens* beziehen zu müssen.

NOTE VI.

TWO SUPPOSED NEW SPECIES OF PENTADACTYLUS

DESCRIBED BY

M. M. SCHEPMAN.1. *Pentadactylus (Morula) Smithi*, n. sp.

Shell ovate, blackish brown, variegated with dirty white; whorls about 5, upper ones slightly eroded, slightly convex, plicately ribbed and spirally lirata, plicae of the upper whorls not much pronounced, on the last whorl very prominent; lirae 3 in number on each of the upper whorls, forming elongated tubercles on the ribs, one of the lirae nearest the suture separated from the lower ones, which are 6 in number, by a slight depression. Moreover a few intermediate lirae and waved lines of growth, forming small scales, are present on fresh specimens. The spaces between the ribs are dirty white, especially on the lirae; number of ribs on the last whorl 7 or 8. Aperture ovate, bluish white within, with 5 brown lines or lirae, ending in toothlike granules; outer lip thickened, with brown triangular spots, corresponding with the granules; columellar lip with a callus above, forming a small canal with the outer lip, a second one about the middle and a tubercle close to this last. Canal rather narrow, oblique; lower part of columella brown.

Length 27, diam. 17, length of aperture 15 mill.

Locality: Tjilatjap, Java. Collected by Mr. Overdijk (Leyden Museum).

This shell, which I could not identify, I sent to Prof. von Martens of Berlin, who thought it had some affinity to *Purpura alveolata* Reeve. As this opinion was given with much reserve, I begged Mr. Edgar Smith, of London, to

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compare it with the types in the British Museum. Mr. Smith writes, that it is perfectly distinct from *P. alveolata*, that it is allied to *Sistrum* (= *Morula*) *affine* Pease, but that it is more elongate, with more and narrower transverse ridges and more elongate tubercles, and that *affine* has only 4 granules on the lip.

2. *Pentadactylus* (*Morula*) *Martensi*, n. sp.

= *Ricinula siderea* Martens (non Reeve).

Shell elongately or conical ovate, white, with 4 distinct and a few accessory rows of brown spots; whorls 6 or 7, slightly depressed at the upper part, with radiating ribs, crossed by numerous scaly ridges, ribs forming prominent tubercles, below the middle part of the upper whorls; last whorl with a prominent upper row of tubercles, corresponding to those of the upper whorls, and a few other rows of smaller ones, extending more or less on the intermediate spaces; suture waved; number of ribs on the last whorl about 8. Aperture small, ovate, yellowish within, outer lip thickened, with 7 elongate tubercles near the margin; columella excavated, nearly smooth, with only very faint tubercles; canal narrow, oblique.

Length 17, diam. $9\frac{1}{2}$ to 11, length of apert. $9\frac{1}{2}$ mill.

Locality: Red sea. Collected by Mr. Forskål (Leyd. Mus.).

This shell, according to Prof. von Martens, belongs to *Ricinula siderea*, as described in »Vorderasiatische Conchylien" pag. 95, and figured Pl. 5, fig. 49. Though I cannot see every character named there, a. o. not the upper row of spots near the suture, the specimens agree in most respects, especially the narrow ones. Prof. v. Martens, however, says that he is now doubtful, if his identification with *R. siderea* is right, and that if not, the species should receive a new name; thus I sent a specimen to Mr. Smith, who declared it to be different from the specimens of *siderea* in the British Museum.

Rhoon near Rotterdam, September 1892.

NOTE VII.

DEUX ESPÈCES NOUVELLES DE DYTISCIDES
DU MUSÉE DE LEYDE

DÉCRITES PAR

M. RÉGIMBART.

Bidessus divisus, n. sp.

Long. 2 mill. — *Oblongo-ovalis, elongatus, subparallelus; capite et pronoto rufis, hoc ad basin late transversim nigricante, sat tenuiter in disco et fortius apud basin punctato; elytris nigris, margine laterali ad apicem dilatato, macula elongata minuta post medium ad latera, fasciæ post basali in tribus maculis divisa quarum interna minuta et subrotunda, intermedia valde elongata, externa majore cum margine omnino confluenta, flavis, ornatis, sat dense punctatis, pubescentibus, persubtilissime vix visibiliter reticulatis; subtus corpore nigricante, antennis pedibusque rufis. Plica thoracica obliqua, in elytris brevissime continuata.*

Cette espèce extrêmement voisine de *B. striola* Sharp s'en distingue par la couleur noire des élytres avec les dessins jaunes bien accusés et bien limités, ainsi disposés : une bordure latérale assez large et dilatée au sommet, une tache allongée et petite en arrière du milieu, très près de cette bordure qu'elle ne touche pas, et une bande post basale divisée plus ou moins complètement en trois taches dont l'interne, petite et presque arrondie, est quelquefois nulle, l'intermédiaire beaucoup plus grande et très allongée, l'externe également très grande et très allongée, entièrement confluenta avec la bordure. De même que chez *B.*

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striola la strie prothoracique est oblique et ne se prolonge sur les élytres que par un petit trait très court.

Hab. Borneo: Sambas (Th. F. Lucassen). — Quatre exemplaires.

Laccophilus Lucasseni, n. sp.

Long. vix 4 mill. — *Ovalis, sat latus, postice attenuatus, convexus; capite et pronoto rufis, hoc ad basin et antice transversim late nigro; elytris nigris, plus minus praecipue ad latera rufo suffusis, margine laterali, vitta transversa basali lata integra, postice irregulariter denticulata, altera vitta ante apicali plus minus nigro irrorata et disintegrata, apice lineaque suturali angusta, flavis; subtus piceus, plus minus ferrugatus, pedibus antennisque rufis. Reticulatione duplici, areolis minutis vix distinctis.*

Forme ovale, assez large, surtout en avant, atténuée en arrière, convexe, le dessus du corps couvert d'une réticulation double dont les petites aréoles très superficielles sont difficilement perceptibles, tandis que les grandes polyédriques ont leurs contours bien imprimés; la tête et le pronotum sont roux testacé, ce dernier avec une marque transversale noire assez large en avant et le long de la base; élytres noires, plus ou moins irrorées de jaune, surtout sur les côtés, avec la bordure et une large bande basale irrégulièrement dentée en arrière, étroitement séparée de la suture, mais largement réunie à la bordure, jaunes; on remarque ensuite entre le milieu et le sommet une bande transversale irrégulière, assez large, beaucoup moins nette, semée et obscurcie de points noirs plus ou moins nombreux qui la rendent nébuleuse; enfin le sommet lui-même est plus ou moins distinctement jaune.

Hab. Java: Simpar, Tegal; 3000 pieds (Th. F. Lucassen). — Quatre exemplaires.

Evreux, Novembre 1892.

NOTE VIII.

ON MERULA JAVANICA AND ITS NEAREST ALLIES

BY

J. BÜTTIKOFER.

When occasionally looking over the Malayan specimens of the genus *Merula* in the Leyden Museum, my attention was drawn by a probably new bird from Celebes, which shows a very strong relationship to *M. javanica* (Horsf.) and *M. schlegeli* (Sclat.). Mr. Seebohm, in his Catalogue of the Turdidae in the British Museum, united *M. schlegeli* with *M. javanica*, though the distinguishing characters, pointed to by Dr. Selater, are striking enough to have it recognized as an undoubtedly valid species. As Dr. Sharpe described another species from Borneo, we will have to deal, at present, with the following four species of this group:

1. *Merula javanica*.

Turdus javanicus Horsf. Trans. Linn. Soc. XIII, p. 148 (1822); Sclat. Ibis 1861, p. 280; id. 1875, p. 344, pl. 8; Seebohm, Cat. Birds Br. Mus. V, p. 279 (partim).

Turdus fumidus S. Müll. Verh. Land- en Volkenk. p. 201 (1839).

Turdus hypopyrrhus Hartl. Verz. Brem. Samml. p. 43 (1844).

This species is represented in the Leyden Museum by 1° an adult female from Java (Mount Gedeh, 8000'), the type of Müller's *Turdus fumidus*; 2° an unsexed adult specimen, obtained in 1860 in Java, and 3° an immature specimen from Java.

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Both our adult birds have the upper surface, as well as the entire head, neck, throat, chest, upper breast, under wing-coverts and thighs dark olive-brown, somewhat paler brown on fore-neck and chest, and darker brown on head, quills and tail-feathers; lower breast, abdomen and flanks pale chestnut, centre of abdomen and vent white, under tail-coverts olive-brown, all the feathers more or less broadly streaked with white along the centres, sides of rump with hidden white subterminal markings on some of the feathers. Bill, feet and claws yellow.

The immature specimen differs from the adult in having whitish shaft-streaks on some feathers of the upper surface and still more on throat and chest, and in the lower breast, abdomen and flanks being uniform with throat and chest instead of pale chestnut brown. These parts are, however, intermixed with some chestnut feathers, showing the color of the adult stage. The vent and under tail-coverts do not differ in color from these parts in the adult birds.

Blyth, in J. A. S. Beng. XVI, p. 143, and after him Salvadori, Ucc. di Borneo, p. 257, and Seebohm in his above cited Catalogue of Turdidae, mention *Turdus concolor* Temm., but Temminck has never published nor is to be found in our Museum any manuscript-name like this in connection with *Turdus javanicus*.

As the habitats of this species are mentioned the Islands of Java, Sumatra and Borneo. I doubt, however, whether any specimen ever has been found in Sumatra, which island is mentioned by Bonaparte in his Conspectus Avium and after him by Gray and later authorities, without mentioning a specimen seen by themselves. The same I might say of Borneo, if there was not enumerated a specimen from that island by Seebohm in his above mentioned Catalogue, but having no special trustworthy statement of its origin, it is not out of doubt whether it is really obtained in Borneo.

2. *Merula seebohmi*.

Merula seebohmi Sharpe, Ibis 1888, p. 386; id. 1889, p. 267.

Similar to *M. javanica*, but general color black instead of olive-brown.

Discovered on the Kina Balu, Borneo, at a height of 8—9000 feet.

3. *Merula celebensis*, n. sp.

Very closely allied to *M. javanica*, but more olive-green instead of brown on back, rump, upper tail-coverts, upper wing-coverts and scapulars, the chestnut color on the under surface richer and reaching higher, covering the whole breast, and the white subterminal spots on the sides of the rump much larger and more numerous. The color of the head seems to me to indicate a stage of nonage, being pale earthy brown and showing narrow pale shaft-streaks and fulvous subterminal spots. A single specimen collected by Teysmann at Macassar in 1877.

4. *Merula schlegeli*.

Turdus fumidus (partim) S. Müller, Verh. Land- en Volkenk. p. 261.

Turdus schlegeli Sclat. Ibis 1861, p. 280; Wall. P. Z. S. 1863, p. 485; Sclat. Ibis 1875, p. 347.

Merula javanica (partim) Seebohm, Cat. Birds Br. Mus. V. p. 279.

This species is easily distinguished from *M. javanica* by the paler color, especially of head, neck, throat and chest, by the vent and centre of abdomen being chestnut instead of white, and by the want of white shaft-streaks on the under tail-coverts.

Adult male (type of the species): Mantle, back, rump and upper tail-coverts pale olive-brown, wing-coverts and outer edge of the secondaries like the back, quills and tail-feathers sepia-brown, entire head, hind neck, sides of neck, chin, throat, chest, upper breast and under

wing-coverts and thighs, pale dirty grayish brown, somewhat darker on crown and hind neck; lower breast, abdomen, vent and flanks intensely chestnut-brown, under tail-coverts olive-brown like the upper, margined with the color of the abdomen, without white shaft-streaks. Bill, feet and claws yellow.

The typical specimen, which I believe to be fully adult, is the only representative of this species in our Museum; it has been obtained by S. Müller in the Penpaan valley in the mountainous interior of Timor.

Leyden Museum, 1 November 1892.

NOTE IX.

A NEW HELOTA FROM WEST-JAVA

DESCRIBED BY

C. RITSEMA Cz.

Helota Pasteuri, n. sp. ♀.

Allied to *Helota Feae* Rits. from Burma and *Vandepolli* Rits. from Borneo, but differing from both in the pale colour of the antennae, in the more prolonged apices of the elytra and in the larger size of the yellow elytral spots. From *Feae* it is moreover at once distinguished by the want of the reddish testaceous lateral streaks on the pronotum and by the regularly rounded apical ventral segment. From *Vandepolli* it differs by the flavous lateral streaks of the prosternum and by the flavous basal half of the claw-joint of the tarsi.

Length 14,5 mm. -- Shining; rather narrow, elongate, narrowed in front and behind; dark bronze above, here and there with a strong violet gloss; the antennae and the extreme anterior angles of the pronotum testaceous; the four convex yellow elytral spots ovate, rather large and situated between the 3rd and 6th striae. Underneath yellow testaceous, with the exception of the head, the extreme margins of the prosternum, a spot between the the anterior and intermediate coxae, and the elytral epipleurae, which parts are dark pitchy or bronze coloured. The legs are yellow testaceous, with the trochanters, the knees, the apex of the tibiae and the tarsi (with the exception of the basal half of the claw-joint) black.

Head strongly produced in front of the eyes, slightly raised along the middle, deeply punctured, the punctures

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on the raised middle portion large and wide apart, smaller and very closely set near the eyes.

Prothorax widest at the base, slightly narrowing towards the front, the sides nearly straight, finely crenulate, the front angles rounded and produced; the base deeply bisinuate, the lateral angles acute, the central lobe rounded and with an impression; the pronotum very coarsely and confluent punctured, with the usual nearly impunctate raised patches. The scutellum is small, roundish, and strongly impressed along the middle. The sterna are nearly impunctate, a few shallow punctures, however, occur on the sides.

Elytra narrowing in slightly curved lines, more strongly so in a sinuate manner near the apices which are prolonged, very slightly dehiscent at the suture and subacute. Each elytron with ten regular rows of punctures of which the 4th and 5th are interrupted by the yellow spots; the punctures of the 5th and following striae are larger than those of the 1st to 4th, and those of the 4th row which are situated between the yellow spots are wider apart than the others; the shoulders are impunctate; the interstices between the 1st and 5th striae are rather flat, those between the 5th and 10th narrow and alternately costiform; the interstice between the 2nd and 3rd striae becomes costiform towards the end and extends down to the extreme tip of the apices. The epipleurae have at the base a few indistinct punctures, especially along the raised inner margin.

Abdomen smooth, with a few hair-bearing punctures; the last ventral segment rounded posteriorly, and with a shallow apical impression.

The legs are smooth and impunctate, the anterior tibiae slightly curved.

Hab. West-Java: Toegoe. — A single female specimen, presented to the Leyden Museum by Mr. J. D. Pasteur to whom the species is dedicated.

Leyden Museum, November 1892.

NOTE X.

A COMPLEMENTARY NOTE
TO MY REVIEW OF THE GENUS RHIPIDURA

BY

J. BÜTTIKOFER.

When, in my »Review of the genus *Rhipidura*», I was to decide what to make of the two specimens from Mount Arfak, described antea, p. 82, species 43, I believed them, on the authority of Dr. A. B. Meyer, to be specifically distinct from his *R. cinnamomea*.

Our Arfak birds, as well as the specimens mentioned by Dr. Meyer as *R. brachyrhyncha*, thus belonging neither to this latter species nor to the closely allied *R. cinnamomea* Meyer, nor being, in my mind, the females of *R. atra* Salvad., they were enregistered as a new species, which I named *R. meyeri* in honor of Dr. Meyer, who was the first to give a description of the bird and who only with some hesitation identified it with *R. brachyrhyncha* Schlegel.

Afterwards, when making up the key to the species, I was quite unable to thoroughly distinguish *R. meyeri* mihi from the eastern form *R. cinnamomea*, so well agree original description and measurements of this latter species with the two Arfak specimens in our Museum.

Dr. Meyer admits that his *R. cinnamomea* is closely allied with the Arfak bird, but »weit lebhafter zimmetfarben und kleiner." The expression »lebhafter zimmetfarben" is not strengthened by the figure of the bird on plate III, the color in this figure being darker, especially on the upper surface which differs so much from the lower, that

it does not agree with the term *cinnamomea*, *subtus viz pallidior*. As to the difference in size, the following comparative table of measurements will show that they are alike in size of wings and tail (the total length I consider of not the least positive value) and that only Dr. Meyer's Arfak specimen has a somewhat longer tail.

	wing	tail	bill ¹⁾	tarsus
Dr. Meyer, Arfak	7,4;	9 ;	1,2;	2 cm.
Bruyn, »	7,1;	8 ;	1,2;	2 »
Woelders, »	7,2;	8,1;	1,2;	2 »
Dr. Meyer, East New Guinea	7,3;	8 ;	1,2;	1,9 »

On ground of the impossibility to draw a sharp line of demarkation between the western and the eastern form, I was sufficiently convinced of their identity and substituted my manuscript name *R. meyeri* by *R. cinnamomea*, but forgot to alter the first in the description of *R. brachyrhyncha*, where it occurs twice (pp. 81 and 82).

Shortly after the publication of my review, Dr. Meyer wrote me that his Arfak bird and that from the Owen Stanley Range, *R. cinnamomea*, were really two different species, and very much obliged me in sending, on my request, both birds for comparison. The results of this comparison are the following:

R. brachyrhyncha Meyer (nec Schl.) is identical with our two Arfak birds. The difference in length and color of the tail ²⁾ in the three specimens now before me are individual, if not due to age or season. They are specifically distinct from the eastern form, *R. cinnamomea* Meyer, and has, therefore, my original name *R. meyeri* to be restored and put in place of *R. cinnamomea* on page 82 of my review.

The eastern form is distinguished from the western by

1) In the key to the species of my Review, the length of the bill in the two great subdivisions A (p. 67) and B (p. 70) are by mistake noted in cm. I hardly need to say that instead of cm. ought to stand mm.

2) On p. 83, line 8 from the bottom; read inner instead of outer web.

its richer red color, which is much inclining to chestnut, especially on the upper surface, and by having the crown of the head red like the back, without any tinge of olive-brown. The tail being incomplete, I can only state the three outermost pairs to be uniform red, and that one black feather of the centre pair is present.

The place of the new species in the key will be between *R. brachyrhyncha* Schl. and *R. cinnamomea* Meyer, and the key on p. 70, third line from top, will have to undergo the following alteration:

d''. Two centre pairs of tail-feathers black, next pair black on the inner, red on the outer web, three outermost pairs, as a rule, uniform red.

a'''. General color pale cinnamon, crown tinged with olive-brown *R. meyeri*.

b'''. General color rich cinnamon-red, crown red like the back. *R. cinnamomea*.

Leyden Museum, November 1892.

NOTE XI.

ON EGGS OF SOME BRITISH GUYANA BIRDS ¹⁾

BY

Dr. C. G. YOUNG.

1. *Troglodytes furvus* (Gm.).

Wren.

They build their nests, of straw and feathers, on the beams about houses, and in empty bottles and drain-pipes which are hung up under the verandah-roof for their special use.

They lay four eggs.

The egg — 18 mm. by 12 mm. — is white, thickly marked with red-brown.

They hatch from January to June. — One egg (N°. 20).

2. *Tanagra episcopus* L.

Blue Sackie.

The nest is open, like a cup, and is composed of grass lined with bamboo-leaves and the thread from the cocoa-nut-palm: sometimes small sticks and pieces of cotton are used to make up the outside. They build on low trees or in shrubs.

They lay three eggs.

The egg — 25 mm. by 18 mm. — is a light blue-grey covered over with dark and light brown marks and spots;

1) This Note may be considered a continuation of a previous paper of this kind (N. L. M. 1889, p. 145) wherein Dr. Young described nests and eggs of a series of British Guyana Birds. The eggs mentioned in the present Note under the various numbers, as well as some birds skins belonging to these eggs, are all presented by that Author to the Leyden Museum. J. BÜTTIKOFER.

some eggs have in addition black spots here and there.

They hatch from February to July. — Two eggs (N^o. 25).

3. *Tanagra palmarum* Max.

Cocoa-nut Sackie.

The nest is like a cup and is built of small sticks and roots on the cocoa-nut- and other palms, and sometimes on shrubs.

They lay three eggs.

The egg — 27 mm. by 19 mm. — is pink white, spotted with dark red-brown and grey: there is a band of spots round the egg near its large diameter.

They hatch in February, March and April. — One egg (N^o. 26).

4. *Ostinops decumanus* (Pall.).

Bunyah.

They make a pendant nest about four, sometimes five, feet long, shaped like a club with a long handle, in colonies, from the extremities of the branches of palms or of tall forest-trees, of the stems of vines, coarse and fine grass, and of the fibres from the cocoa-nut-palm, and they line the bottom of the nest with leaves. The place of entrance is a small oval hole in the narrow part of the nest near its attachment to the branch. As the young get strong they make a second place of entrance near the bottom of the nest. The nest is completed in about fourteen days. They generally build on the lee side of the tree, and over water, not because they get any protection from the water, but because in the thick forest that is the only side of the tree they are able to build on. The young when hatched are naked and very helpless.

They lay two eggs.

The eggs vary much in length, being from 40 mm. to 35 mm. by 25 mm.; they are rosy white, thickly marked with violet-red.

They hatch in January, February and March. — Two eggs (N°. 27).

5. *Molothrus atronitens* Cab.

Lazy Bird.

They lay one egg in the nest of other birds, especially in the nest of the wren (*Troglodytes furvus*): frequently the egg is found in the nest of the yellow-headed rice bird (*Xanthosomus icterocephalus*) which builds in the open fields.

The egg — 20 mm. by 17 mm. — is pink white, thickly marked with grey; many of the marks have a pink tinge. — One egg (N°. 21).

6. *Xanthosomus icterocephalus* (L.).

Yellow-headed Rice Bird.

They make an open nest, in colonies, on the rushes in the swamps, or on the stems of growing rice, of pieces of the leaves of the sugar-cane or of rice-straw; the nest is held up by being built round the stems of three or four of these water-plants, near their top.

They lay three eggs.

The egg — 22 mm. by 16 mm. — is a light greenish blue, marked with black and light grey spots and lines: many of the spots end in lines.

They hatch from February to June. — One egg (N°. 28).

7. *Leistes guianensis* (L.).

Red-breast.

They build an open nest of grass, on the ground, on open fields.

They lay three eggs.

The egg — 21 mm. by 16 mm. — is white, thickly covered with light violet-red marks.

They hatch from January to June. — One egg (N°. 30).

8. *Quiscalus lugubris* Sw.

Boat-tailed Grackle.

The nest is open and very deep, and is built of rushes

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on the low shrubs found on the open savannahs. They build in colonies.

They lay three eggs.

The egg — 26 mm. by 19 mm. — is grey-green, marked with black and purple irregular lines and dots.

They hatch in March, April and May. — One egg (N°. 29).

These birds when flying a short distance, open their tails vertically and use it like the rudder of a boat, but if they fly far they open this rudder-like tail from above, so that it forms two plains meeting below at a small angle.

9. *Todirostrum cinereum* (L.).

Pipitoorie.

They make an oval, hanging nest of grass, hair, and the cotton from the seeds of plants on the end of the branches of tall trees, or on the trailing branches of vines. The place of entrance is an oval hole in the side of the nest and it is protected by an overhanging roof.

They lay two eggs.

The egg — 17 mm. by 10 mm. — is a long oval, and it is pure white.

They hatch from March to July. — One egg (N°. 23).

10. *Myiozetetes cayennensis* (L.).

Small Kiskadie.

They make a domed nest of grass on the outer branches of low, or of moderately high trees, resembling the nest of *Pitangus sulphuratus* (L.), only smaller; the place of entrance is in the side of the nest. Outside the nest is very rough and ragged, but inside it is quite the contrary.

They lay three eggs.

The egg — 25 mm. by 16 mm. — long and sharp pointed, is pink white, with red-brown spots and blotches, especially on the large end and round the large diameter.

They hatch from January to June. — One egg (N°. 22).

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11. *Tyrannus melancholicus* Vieill.

They make a nest, like a cup, of small sticks lined with grass and the leaves of the bamboo, on the outer branches of moderately high trees.

They lay three eggs.

The egg — 26 mm. by 20 mm. — is greenish white, with red-brown and light brown markings over its entire surface. The eggs in the same nest vary much as regards size, brightness of colour, and number of marks.

They hatch from January to June. — One egg (N°. 24).

12. *Symallaxis cinnamomea* (Gm.).

Rootie.

The nest is built of small sticks in the centre of low bushes, and it is many times the size of the bird. The shape of the nest is a long oval, and it rests horizontally in the tree, one of the ends being in the middle of the bush, while the other end reaches to almost its outer margin. The place of entrance is in the top of the outermost end of this oval mass, and its direction is at first downwards and then straight inwards to the other end where the nest proper is. This passage is formed by an archway of small sticks placed on end and meeting above. Where the eggs rest there is usually a lump of clay hollowed out and lined with grass.

They lay four eggs.

The egg — 19 mm. by 15 mm. — is white, with a slight blue tinge and has no marks.

They hatch in May and June. — Three eggs (N°. 33).

13. *Dendroornis pardalota* (Vieill.).

Carpenter Bird.

They lay their eggs in holes, made by the bird itself, in the rotten wood of trees, especially in the Oronoque-tree, Sandcoco-tree, *Erythrina glauca*, the rotten wood

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being very soft. Sometimes they build in other places. The egg sent was taken, along with two others, out of an old cassava press, a hollow tube of basket work, which had been thrown into a tree.

They lay three eggs.

The egg — 26 mm. by 20 mm. — is white.

They hatch in May and June. — One egg (N^o. 34).

The egg of this bird resembles the egg of the woodpecker, not only by being white but also by having the same hard-looking white gloss.

14. *Rosthramus sociabilis* (Vieill.).

Cricketa Hawk.

They build a flat nest of sticks, in colonies, on moderately high trees in the interior about the head-waters of the creeks.

They lay three eggs.

The egg — 42 mm. by 33 mm. — is greenish white, blotched and spotted with dark brown, or light brown marks, no two eggs being marked alike, some have very few marks while others are so covered that the ground colour of the egg is hidden.

They hatch in April and May. — Two eggs (N^o. 39).

After the breeding season these hawks separate and scatter all over the colony where there is fresh, still water, where they catch the fresh water-snail, called cricketa, on which they live. They lift this snail out from among the water-plants by their feet, as other hawks lift birds, but when they get clear of the water-plants, they, while on the wing, take the shell from their feet and carry it in their bill to one particular dry branch where they eat the snail: below this branch one can find a pile of empty shells.

15. *Cathartes aura* (L.).

Red-headed Carrion Crow.

The nests of these birds are very hard to find although

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the bird itself is plentiful. They make a flat nest of sticks on the ground, or inside hollow trees, especially the hollow stem of the cabbage-palm: one nest was found inside the withered body of a dead cow.

They lay two eggs.

The egg — 77 mm. by 50 mm. — is greenish white, marked with dark brown or light brown, large and small spots: the large spots form a ring round the egg near its large end.

They hatch in January, February and March. — One egg (N^o. 41).

This vulture is called red-headed to distinguish it from the black-headed variety, but its head is not always red, as frequently they are seen with the head a dirty grey, especially on a wet day.

16. *Cathartes atratus* (Bartram).

Black-headed Carrion Crow.

They build a flat nest of sticks on the ground at the foot of some tree, or inside hollow trees, either forest-trees or palms, or among the dry leaves of the sugar-cane where these are left between the rows of growing canes.

They lay two eggs.

The egg — 65 mm. by 45 mm. — is brownish white, marked with dark, dirty brown spots. There is one large splash of the same colour on one side of the egg near its large end.

They hatch in January, February and March. — One egg (N^o. 40).

17. *Ardea agami* Gm.

King of the Herons.

Their nests are flat and composed of sticks. They build, in colonies along with the other small herons, on low trees. Some years ago they were in the habit of building in the young Courida-trees, *Avicennia nitida*, along the

sea-shore, and at the mouth of the Berbice River, now they are never seen there, having migrated to more lonely places in the marshes of the interior, where they collect in large numbers in the breeding season. I have known a tub full of their eggs to be collected at one time.

They lay two eggs.

The egg — 52 mm. by 38 mm. — is greenish blue.

They hatch in April, May and June. — One egg (N°. 36).

18. *Dendrocygna discolor* Schl. & Salv.

Wiscissi Duck.

They build a flat nest of sticks and grass, among the reeds and rushes, near the river-sides or in the swamps, in quiet places. Sometimes they build in low trees and in the hollow stump of dead palms, *Mauritia flexuosa*.

They lay four eggs.

The egg — 52 mm. by 35 mm. — is white.

They hatch in August. — One egg (N°. 37).

19. *Columba rufina* Temm.

Pigeon.

They build, in colonies, flat nests of sticks on moderately high trees in lonely places, either on the margin of the creeks, or in the trees which grow at the back of the savannahs. Isolated nests have been found on trees close to houses.

They lay two eggs.

The egg — 35 mm. by 28 mm. — is white.

They hatch in March and in August. — One egg (N°. 32).

20. *Chamaepelia griseola* (Spix).

Ground Dove.

They make a flat nest of sticks and grass on the ground or in low bushes. When they build on the ground the nest is composed principally of grass and it is deeper than the nest they make in bushes.

They lay two eggs.

The egg — 25 mm. by 17 mm. — is white.

They hatch in January, February and March, but their nests have been found in August. — One egg (N°. 31).

21. *Crax alector* L.

Powis.

They build an open nest of grass, on the ground, under the shelter of low bushes, in the interior.

They lay two eggs.

The egg — 83 mm. by 60 mm. — is white; it is covered with a rough coating of small elevations.

They hatch in March and April. — One egg (N°. 38).

22. *Porphyrio martinicus* (L.).

Blue Coot.

The nest is flat and is built of small sticks and of grass among the tall water-plants which grow in the swamps: rarely they build on low bushes. The egg sent was taken, with four others, out of a nest built in a coffee-tree.

They lay six eggs.

The egg — 50 mm. by 32 mm. — is pink white, covered, especially about the large end, with light grey and light brown spots.

They hatch in May, June and July. — One egg (N°. 35).

New Amsterdam, Berbice, British Guyana.

March 31st, 1892.

NOTE XII.

CINQ ESPÈCES NOUVELLES D'ÉLATÉRIDES
DE L'ÎLE DE JAVA

DÉCRITES PAR

E. CANDÈZE.*Agraeus Lucassemi*, n. sp. ♂.

Rhomboïdalis, *brunneo-niger*, *opacus*; *prothorace trapezoideo*, *a basi ad apicem gradatim fortiter angustato*, *medio* (♂) *tumido*, *lateribus planatis*, *fulvo-squamulosis*; *elytris gibbosis*, *dorso bituberculatis*, *versus basin squamulis fulvis sparsis*. — Long. $4\frac{1}{2}$ mill., lat. $2\frac{1}{4}$ mill.

Hab. Java: Simpar (rés. Tegal), 3000 pieds d'altitude (Mr. Th. F. Lucassen). — Musée de Leide.

Petite et remarquable espèce dont je n'ai qu'un mâle sous les yeux, et que je dédie à M. Th. F. Lucassen qui l'a découverte. Elle est caractérisée principalement par sa forme régulièrement rhomboïdale qui est due à la forte atténuation antérieure du prothorax, en sorte que l'avant et l'arrière sont également coniques. Le milieu du prothorax forme un relief longitudinal, les côtés sont plats et garnis de poils squamiformes dorés. Les élytres, plus larges que lui et très courtes, sont très fortement bombées, sans stries sinon à la base où elles sont du reste peu marquées avec le 3^e intervalle portant un tubercule oblong.

Agraeus maculosus, n. sp. ♀.

Niger, *subnitidus*, *argenteo-maculosus*, *pilis nigris erectis*

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sparsutus; antennis brunneis, acute serratis; prothorace longitudine latiore, lateribus arcuato, dorso convexo, inaequali, canaliculato; elytris prothorace angustioribus, brevibus, a basi angustatis, basi tantum striatis. — Long. 5 mill., lat. 2 mill.

Hab. Java: Kalibakoeng (rés. Tegal), 1000 pieds d'altitude (Mr. Th. F. Lucassen). — Musée de Leide.

Cette espèce est caractérisée par les mouchetures argentées tranchant sur ses téguments très noirs. Je n'en ai vu qu'un specimen que j'estime être une femelle, car il a tout à fait la forme du même sexe du *catulus*, espèce également de Java, dont je possède un mâle et cinq femelles, et qui est encore inédite.

Melanoxanthus tricolor, n. sp.

Niger, parum nitidus, pubescens; antennis nigris; prothorace latitudine haud longiore, convexo, tenuissime punctato, rufo, guttis duabus conjunctis margine antico nigris, elytris a basi sensim attenuatis, punctato-striatis, sutura apice praesertim depressa, plaga laterali abbreviata testacea; subtus, thorace excepto, niger. — Long. 7 mill., lat. $1\frac{1}{2}$ mill.

Hab. Java: Simpar (rés. Tegal), 3000 pieds d'altitude (Mr. Th. F. Lucassen). — Musée de Leide.

Abstraction faite de la tache jaune qui pare les élytres dans leur portion latero-antérieure, cette espèce ressemble beaucoup au *M. nigrosignatus* Cand. (Notes Leyd. Mus. XII, 1890, p. 246), et n'en est peut-être qu'une variété.

Il est bon de noter toutefois que le corselet est un peu plus court et la suture des élytres plus enfoncée.

Melanoxanthus cinnamomeus, n. sp.

Minutus, cinnamomeus, opacus, pubescens; fronte aequaliter convexa, creberrime punctulata; prothorace latitudine haud longiore, creberrime punctis umbilicatis notato, angulis posticis pallidioribus; elytris punctato-striatis, flavescentibus; subtus pedibusque concoloribus. — Long. $3\frac{1}{2}$ mill., lat. $\frac{4}{5}$ mill.

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Hab. Java: Telaga-bodas (rés. Préanger), cratère près Garoet (Prof. A. A. W. Hubrecht). — Musée de Leide.

L'uniformité de couleur dans un genre où les espèces sont généralement bicolores ou tachetées, rendra celle-ci facilement reconnaissable. J'en dirai autant de la ponctuation du prothorax qui n'est visible qu'avec le secours d'une forte loupe, les points, bien qu'ombiliqués, étant fort peu imprimés.

Je possède aussi cette espèce du Mont Tjikoraï, également dans le Préanger.

Agonischius submetallicus, n. sp.

Angustus, aeneus, metallescens, pube fuscescens obductus; antennis obscuris; prothorace latitudine longiore, a basi usque ad apicem gradatim angustato, convexo, crebre punctato, medio canaliculato; elytris prothorace paulo latioribus, ultra medium sensim ampliatis punctato-striatis; abdomine et metathorace passim plus minusve rufescentibus. — Long. 10 mill., lat. 2 mill.

Hab. Java: Simpar (rés. Tegal), 3000 pieds d'altitude (Mr. Th. F. Lucassen). — Musée de Leide.

Fort voisin d'une espèce du Darjeeling, l'*A. metallicus* ¹⁾, dont il a la tournure et la couleur, avec la même tendance du dessous du corps à passer au rougeâtre. Il est toutefois plus petit et proportionnellement plus étroit.

Lorsqu'on regarde sous un jour oblique la pubescence des élytres, on voit que celle des intervalles pairs a un reflet un peu différent de celui des autres, ce qui tient à une inclinaison un peu moindre des poils; cette disposition de la pubescence leur communique un aspect légèrement rayé.

Je possède également cette espèce du Mont Tengger, à l'orient de Java.

Glain-lez-Liége, 4 Novembre 1892.

1) Elatérides nouveaux, fasc. V, dont la publication sera prochaine.

NOTE XIII.

EXPLANATION OF PLATE 2

BY

C. RITSEMA Cz.

- Fig. 1. *Prosopocoelus Pasteuri* Rits. ♂, from West-Java: Mt. Poentjak (Notes Leyden Museum, Vol. XIV (1892), p. 31).
- Fig. 2. *Prosopocoelus tarsalis* Rits. ♂, from Central-Java: Magelang (Notes Leyden Museum, Vol. XIV (1892), p. 191).
- Fig. 3. *Cyclommatus canaliculatus* Rits. ♂, from the island of Nias (Notes Leyden Museum, Vol. XIII (1891), p. 235).
- Fig. 4. *Eurytrachelus Hansteini* Albers, ♂, from West-Sumatra: Solok (Deutsche Entom. Zeitschr. Vol. XXXIII (1889), p. 235).
- Fig. 5. *Gnaphaloryx tricuspis* Rits. ♂, from West-Sumatra: Solok (Notes Leyden Museum, Vol. IV (1882), p. 163; — Midden-Sumatra, Supplement, 1892, p. 4).
- Fig. 6. *Aegus Leeuweni* Rits. ♂, from West-Sumatra: Solok (Notes Leyden Museum, Vol. IV (1882), p. 164; — id. Vol. XI (1889), p. 235, note; — Midden-Sumatra, Supplement, 1892, p. 4).

Leyden Museum, November 1892.

NOTE XIV.

DESCRIPTION D'UNE NOUVELLE ESPÈCE
DU GENRE STENOPHIDA, PASC.

PAR

W. ROELOFS.

Stenophida rufipes, n. sp.

Long 7 mill., rostr. excl. — De la taille et de la forme étroite, allongée, de *S. linearis* Pasc.; noir, pattes brun-rouges, antennes de la même couleur, mais un peu plus noirâtres.

Tête et rostre ponctués, le dernier plus fortement à la base, graduellement plus finement vers l'extrémité, un point imprimé entre les yeux.

Prothorax couvert d'une punctuation serrée, avec une ligne latérale d'écailles blanches. Ecusson linéaire.

Elytres un peu plus larges que chez *S. linearis*, garnies de la même sculpture de stries finement ponctuées et des intervalles de points confluent. La base des élytres, les trois intervalles à côté de la suture et une courte ligne sur les côtés à l'extrémité, garnis d'écailles piliformes, blanches.

Dessous et pattes ponctués. Jambes avec des rainures. Les épimères du mésothorax, les épisternums métathoraciques et les côtés du premier segment de l'abdomen garnis d'écailles blanches. Pygidium garni de points fins à sa base, plus gros sur le reste de sa surface, garni d'écailles blanchâtres, plus grosses que celles qui garnissent le reste des téguments; elles sont plus denses sur la ligne médiane.

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Les cuisses et les jambes peu densément garnis en dessous de poils pales; les cuisses avec de rares écailles blanches, sur la tranche supérieure.

Dans les deux individus que j'ai sous les yeux, le rostre est plus long (avec la tête environ aussi long que le prothorax) que dans deux individus de *S. linearis*, provenant de Mombas, que j'ai reçus de Mr. Simpson, et qui me paraissent des mâles. Le rostre est au contraire plus court que dans un troisième individu de *S. linearis* (dans la collection Neervoort van de Poll) qui provient de Mr. Raffray, qui l'a capturé dans l'île de Zanzibar ¹⁾. Ce dernier possède un rostre impondue vers l'extrémité. Je n'ose pas décider, d'après l'examen de cet individu unique, si ces caractères suffissent pour constituer une espèce différente.

Les deux individus de *S. rufipes* se trouvent dans la collection Neervoort van de Poll et proviennent du pays de Matabele.

La Haye, Janvier 1893.

1) Je l'avais indiqué, par erreur, dans les Notes from the Leyden Museum (vol. XIV, p. 135) comme de Mombaia.

NOTE XV.

FIVE NEW SPECIES OF THE GENUS HELOTA
FROM SIKKIM AND DARJEELING

DESCRIBED BY

C. RITSEMA Cz.

Helota Desgodinsi, n. sp. ♂.

This handsome species is closely allied to *Helota curvipes* Oberth. ¹⁾ from the Himalaya, but at once distinguished by its more robust shape, by the coppery colour of the upper surface, by the broad fulvous streaks on the sides of the pronotum, and by the broadly subtruncate apices of the elytra in the male sex.

Length 10 mm. — Shining; above coppery with shades of green; the scutellum brassy, the extreme lateral margins of the elytra bronze green; the antennae pale testaceous, the terminal joint of the club infusate; the sides of the pronotum broadly margined with fulvous, which colour is not sharply separated from the dark metallic colour of the disk; the elytra provided with two pairs of yellow convex spots, the anterior pair placed between the 4th and 6th ²⁾, the posterior pair between the 3rd and 6th striae; these spots are surrounded with the green shade, especially the posterior pair. The colour of the underside is testaceous, with the exception of the head and the ely-

1) *Coleopterorum Novitates*, I (1883), p. 60.

2) The punctures bordering the anterior spots are somewhat pushed aside, which makes the spots broader than the distance between the 4th and 6th striae.

tral epipleurae which are brassy; the legs are testaceous, with the apex of the femora and the entire tibiae brassy, the tarsi more or less dark brown-red.

The head strongly but not densely punctured on the raised middle portion of the face, finer and closer near the eyes, still finer and extremely close together on the narrowed front portion.

Prothorax transverse, slightly narrowing in faintly curved lines towards the front margin, the lateral margins indistinctly crenulate, the anterior angles prominent and rounded; the base bisinuate, the lateral angles acute, the median lobe subtruncate and with a small impression at the extreme apex. The pronotum strongly and rather densely punctured, very densely on the fulvous lateral streaks; an impunctate streak, narrowing towards the front margin, runs along the middle, and is, on both sides of its base, accompanied by a distinct impression. The scutellum is strongly transverse and impunctate.

The elytra are nearly parallel, the sides regularly curved, the apices broadly subtruncate, the outer angle of the truncation broadly rounded, the sutural one sub-angular. Each elytron with ten regular striae of punctures which become larger towards the sides; the interstices are very finely punctured, but on the 6th and following interstices moreover a few large punctures occur; on the apical portion of the elytra the interstices are costate.

The brassy coloured under surface of the head is remotely covered with large punctures; on the prosternum the punctures are shallow, on the sides of the metasternum they are finer; the central portion of the latter is very finely pubescent; the elytral epipleurae are distinctly but sparsely punctured; the abdomen apparently impunctate, but in the broad impression which occurs on the apical segment distinct hair-bearing punctures are present; the apical ventral segment is broadly truncate with slightly prominent lateral angles, the hinder margin fringed with long pale coloured hairs; the apical margin of the last

dorsal segment is trisinate, the central sinus very small.

The femora are very finely and sparingly punctured, on their metallic tip, however, the punctures are better visible; the tibiae are very strongly punctured, those of the anterior pair of legs are strongly curved in the middle, those of the posterior pair slightly sinuate.

Hab. Environs of Pedong in Sikkim (Desgodins). — A single male specimen of this species, which is dedicated to its captor, is in the collection of Mr. René Oberthür.

Helota pustulata, n. sp. ♀.

Like the foregoing species allied to *Helota curvipes* Oberth. ¹⁾ from the Himalaya, but somewhat smaller and decidedly narrower; moreover the colour of the upper surface is a more coppery bronze, the prothorax is proportionately smaller, and the anterior and posterior elytral spots are placed closer together.

Length $8\frac{1}{2}$ mm. — Shining; above coppery bronze, the coppery hue more distinct on the head and pronotum than on the elytra, the scutellum bright metallic green; the antennae testaceous, the terminal joint of the club infusate; the anterior angles of the pronotum pale fulvous; the elytra provided with two pairs of yellow spots, the anterior pair placed between the 4th and 6th, the posterior pair between the 3rd and 6th striae. The colour of the under surface is reddish testaceous, with the exception of the head (without the throat) and the elytral epipleurae, which are brassy; the legs are reddish testaceous with the apex of the femora and the entire tibiae metallic green, the tarsi dark pitchy with a bronze hue on the claw-joint.

The head is strongly and rather remotely punctured on the raised middle portion of the face, near the eyes the punctures are smaller and somewhat closer together, and

1) Coleopterorum Novitates, I (1883), p. 60.

on the narrowed front portion the punctures are very small and densely set.

The prothorax is transverse, slightly narrowing in nearly straight lines towards the front margin, the lateral margins very indistinctly crenulate, the anterior angles slightly prominent, the front margin curved backwards; the base bisinuate, the lateral angles acute, the median lobe subtruncate; the upper surface regularly closely covered with strong punctures which are slightly more approximate to each other towards the sides; an impunctate streak, extending on to the front margin, is present in front of the scutellum, and is accompanied, on both sides of its base, by a distinct impression. The scutellum is strongly transverse, broadly rounded behind, and impunctate.

The elytra are subparallel, slightly narrowing in faintly curved lines towards the end; in front of the apices the sides are very slightly concave and, as the elytra are dehiscent at the suture, the apices are narrowly pointed; each elytron has ten regular striae of punctures which become larger towards the sides; the interstices are very finely punctured, and become costate on the apical portion.

The under surface of the head shows very distinct punctures which is likewise the case with the sides of the prosternum; on the middle of the prosternum and the sides of the metasternum the punctures are very fine; the middle of the metasternum and the abdomen, as well as the elytral epipleurae, are apparently impunctate; the apical ventral segment is subtruncate, and provided with a broad flattened space in front of the apical margin; the metallic apex of the femora is finely and sparsely punctured; the tibiae are strongly punctured, the anterior pair slightly curved.

Hab. Environs of Pedong in Sikkim (Desgodins). — A single female specimen in the collection of Mr. René Oberthür.

Helota guttata, n. sp. ♀.

Very closely allied to *Helota serratipennis* Rits. from

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Burma ¹⁾ but of a different coloration, the upper surface being coppery with shades of green, in stead of being dark bronze; moreover, the shape of the new species is somewhat narrower and, consequently, slightly more elongate, the elytra are less convex in a transverse direction just before the anterior yellow spots, and their tips more narrowly rounded than in the female sex of *serratipennis*.

Length 8 mm. — Shining; above coppery with shades of green, especially on the head and thorax; the scutellum shining golden green; the antennae fulvous, the club infusate, the scape with a metallic green spot anteriorly; the front angles of the pronotum testaceous; the elytra provided with two pairs of yellow convex spots of which the anterior pair are placed between the 4th and 7th, the posterior pair between the 3rd and 6th striae; the spots are surrounded with bluish black. The colour of the underside is pale testaceous, with the exception of the head and elytral epipleurae which are brassy; the legs are reddish testaceous, with the apex of the femora, the entire tibiae and the tarsi bronze green.

The head strongly but not densely punctured on the middle of the face, finer and closer near the eyes, very fine on the narrowed front portion.

Prothorax transverse, slightly narrowing in nearly straight lines to the front margin, the lateral margins indistinctly crenulate, the anterior angles scarcely prominent, the front margin slightly curved backwards; the base bisinuate, the lateral angles acute, the median lobe broadly rounded, the pronotum strongly and regularly densely punctured, the punctures becoming slightly larger and consequently more closely set towards the sides; an impunctate streak, narrowing towards the front margin, runs along the middle and is, on both sides of its base, accompanied by a distinct impression. The scutellum is strongly transverse, broadly rounded behind.

1) Ann. Mus. Civ. Genova, vol. XXX (1891), p. 890.

The elytra are distinctly narrowed in regularly curved lines towards the apices which are more narrowly rounded than in the female sex of *serratipennis*; the posterior third of the outer margin is remotely serrulate. Each elytron has ten regular striae of punctures which become larger towards the sides; the interstices show some extremely fine punctures and become costate on the apical portion.

The brassy coloured underside of the head is remotely covered with deep punctures; on the sides of the prosternum the punctures are shallower, and on the sides of the metasternum they are finer; the elytral epipleurae have a few large punctures on their basal half; the middle of the abdomen is apparently impunctate, on the sides and on the apical segment, however, fine but distinct punctures are visible; the apical ventral segment is subtruncate at the tip where it is moreover faintly impressed; the tibiae are strongly punctured, the metallic tip of the femora sparsely so; the anterior tibiae are slightly curved.

Hab. Environs of Pedong in Sikkim (Desgodins). — A single female specimen in the collection of Mr. René Oberthür.

Helota tibialis, n. sp. ♂.

Closely allied to and strongly resembling *Helota laevigata* Oberth. ¹⁾, and from the same locality (Darjeeling). Both species are easily recognized by the colour of the legs, these being fulvous without metallic green. From the male sex of *laevigata* the new species may be separated at a glance by the compressed dilatation of the inner margin of the anterior tibiae close to the apex.

Length $8\frac{1}{2}$ mm. — Shining; above dark bronze green with coppery tinges; the antennae fulvous with the two apical joints of the club infusate; the sides of the pronotum narrowly margined with pale fulvous, more broadly,

1) Coleopterorum Novitates, I (1883), p. 59.

however, towards the front margin. Each elytron provided with two yellow spots of which the anterior, slightly transverse one is situated between the 3rd and 7th, the posterior one between the 3rd and 6th striae. The entire under surface, the elytral epipleurae included, is pale fulvous, with the exception, however, of the head (without the throat) which is brassy. The legs are pale fulvous, inclining to pale chestnut on the knees and tibiae; the tarsi are pitchy, with the exception of the basal half of the claw-joint which is light brown; an infuscate spot is present on the upper side of the femora just beyond the middle of their length, and a black line runs along the inner margin of the apical half of the tibiae.

The head is very closely punctured, more remotely, however, on the middle of the face.

The prothorax is distinctly broader at the base than long, narrowing to the front margin in sinuate lines; the lateral margins are faintly crenulate, the anterior angles sub-angular, not prominent, the front margin straight; the base bisinuate, the lateral angles acute and slightly divergent, the median lobe broadly rounded; the upper surface strongly but not closely and somewhat irregularly punctured, with a smooth line along the middle; moreover three pairs of indistinct impressions are to be observed, viz. one near the front margin, another in the basal angles, the third (which are elongated and strongly divergent) originating from the base on both sides of the median lobe; the scutellum strongly transverse, broadly rounded behind, and impunctate.

The elytra conspicuously narrowing in straight lines towards the apices which are separately rounded: very broadly at the outer angle, narrowly at the sutural one; each elytron with ten regular striae of distinct punctures which become stronger towards the outer margin, the interstices apparently impunctate, flat, slightly costate at the end.

The brassy coloured underside of the head is covered

with deep punctures; the sides of the pro- and metasternum rather strongly, the middle portion very finely punctured; the elytral epipleurae, abdomen and femora impunctate, the tibiae with a few indistinct punctures. The apical ventral segment emarginate at the end, the emargination occupying the entire width and densely fringed with pale yellow glithering hairs; in front of the apical margin a semilunar patch of a fulvous tomentose pubescence is present; the apical dorsal segment is rather dark brown and, at the apex, sub-angularly notched in the middle with broadly rounded lateral angles.

The legs are very elongate; the anterior tibiae are strongly curved in the middle, and the inner margin of the apical half widens out towards the apex, so as to form a flattened dilatation which abruptly ends before it reaches the tip of the tibia; the margin of this dilatation is black, densely fringed with short pale coloured hairs and ends anteriorly in a small but distinct tooth; the basal joints of the anterior tarsi are slightly enlarged and fringed with long hairs; the intermediate tibiae are faintly curved, the posterior ones sinuate.

A few colourless soft hairs are spread over the under surface of the beetle; on the middle of the metasternum, however, these hairs are much more numerous and shorter.

Hab. Darjeeling (Christie). — A single male specimen presented to the Leyden Museum by E. Wasmann S. J.

Helota Severini, n. sp. ♀.

This species is very closely allied to and strongly resembles *Helota notata* Rits. from Burma ¹⁾. The head in the new species, however, is smaller, the sides of the prothorax are less convergent, the pronotum is more regularly closely punctured, and the punctures in the elytral striae are stronger.

1) Ann. Mus. Civ. Genova, vol. XXX (1891), p. 900.

Length 6—6½ mm. — Very narrow and elongate, shining; above bronze green with coppery tinges, the tip of the mandibles and the antennae pale testaceous, the club of the latter infusate. Each elytron provided with two yellow spots, which are narrowly surrounded with bluish black and are situated between the 3rd and 7th striae; the anterior spot is conspicuously larger than the posterior one. The colour of the under side is pale testaceous, with the exception of the head (without the middle of the throat), the lateral portions of the prosternum and the elytral epipleurae, which are brassy; the legs are testaceous, with the apex of the femora and the base of the tibiae metallic green, the tarsi more or less dark brown.

The head is remotely punctured, especially on the middle of the face where the punctures are large; they are finer and closer set along the inner orbits, and very minute on the narrowed front portion.

The prothorax is somewhat broader at the base than long, slightly narrowing to the front margin in nearly straight lines, the anterior angles rounded, not at all prominent, the front margin straight; the base bisinuate, the lateral angles acute, the median lobe rounded; the upper surface regularly densely covered with deeply impressed punctures which leave, however, a smooth space in front of the scutellum free; the scutellum transverse and impunctate.

The elytra subparallel, narrow and elongate, the apices broadly, almost conjointly rounded; each elytron with ten regular striae of punctures which are stronger than in *notata*; the interstices slightly costate at the end.

The underside of the head and the brassy lateral portions of the prosternum strongly punctured, the sides of the metasternum with a few minute punctures, the elytral epipleurae, legs and abdomen apparently impunctate; the anterior tibiae nearly straight, the intermediate and posterior tarsi slender and elongate.

Hab. Environs of Kurseong in Sikkim (Braet). — Three female specimens from the Brussels Museum, one of which

is now in the Leyden Museum. — The species is dedicated to the zealous Assistant of the Brussels Museum, Mr. G. Severin.

The following species of *Helota* are as yet known to inhabit Sikkim (environs of Pedong and Kurseong) and the adjacent district Darjeeling:

longipes Rits., from near Pedong (Desgodins); — likewise known from Darjeeling (coll. Neervoort van de Poll).

Fairmairei Rits., from near Kurseong (Braet); — likewise known from Darjeeling (coll. Oberthür and Copenhagen Museum).

Oberthüri Rits., from near Pedong (Desgodins); — likewise known from Darjeeling (coll. Oberthür).

Desgodinsi Rits., from near Pedong (Desgodins).

pustulata Rits., from near Pedong (Desgodins).

guttata Rits., from near Pedong (Desgodins).

laevigata Oberth., from near Kurseong (Braet) and Pedong (Desgodins); — likewise known from Darjeeling (coll. Oberthür).

tibialis Rits., from Darjeeling (Christie).

Severini Rits., from near Kurseong (Braet).

Boysi Rits. (the presumed ♀ of this species), from near Kurseong (Braet) and Pedong (Desgodins); — likewise known from Darjeeling (Christie).

pusilla Oberth., from near Kurseong (Braet); — likewise known from Darjeeling (coll. Oberthür).

fulvitarsis Rits., from near Pedong (Desgodins); — likewise known from Darjeeling (coll. Oberthür).

Leyden Museum, December 1892.

NOTE XVI.

DESCRIPTION OF A NEW SPECIES
OF THE CETONID GENUS THAUMASTOPEUS, KRAATZ

BY

C. RITSEMA Cz.

Thaumastopeus Westwoodi, n. sp. ♀.

Length (from the anterior margin of the prothorax down to the end of the suture) 33 mm.; breadth at the shoulders 18 mm. — Subshining above, more strongly shining beneath. Entirely black, without distinct metallic hue, the club of the antennae pitchy, the prominent tufts of hairs on the parts of the mouth ferruginous.

The head glossy and impunctate on the vertex; between the eyes and along the middle of the face rather small punctures are present, whereas large punctures occur on the sides of the face below the eyes; on the impressed portion of the lobes of the clypeus no distinct punctures are visible, but on the margins a very fine punctuation is to be observed.

The prothorax convex in a transverse as well as in a longitudinal direction; the upper surface very finely coriaceous, the punctures stronger and denser set towards the sides, especially in the anterior angles; the sides bisinuate, faintly margined along the basal half; the basal lobe subemarginate, leaving the elongate triangular tip of the scutellum uncovered; a small and shallow transverse impression is (perhaps accidentally) present close to the basal margin, midway between the median lobe and the lateral angles, which latter are narrowly rounded and but very

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slightly divergent; the front margin is straight, the anterior angles (when seen in front) sharply protruding.

The elytra at the base broader than the base of the thorax, the sides nearly parallel, only slightly attenuating towards the end, the apices obliquely notched at the suture, the outer angle of the notch sub-angular, the sutural one not protruding; the upper surface of the elytra is finely coriaceous, not so finely however as the thorax, and covered with large shallow punctures which are more or less arranged in rows; on the sides of the apical half and on the apical portion (including the apical callus) transverse striae are present; the lateral margin of the anterior half of the elytra is accompanied by a very fine line; the sutural margin is in the declivous apical portion strongly raised.

The pygidium broad and short, not projecting beyond the apex of the elytra, and covered with fine transverse striae, which on the obtuse transverse keel surround two centres.

The sides of the prosternum are longitudinally strigose, those of the mesosternum transversely; the sides of the metasternum are sparsely covered with elongate shallow punctures, whereas the sides of the abdomen show irregularly placed short curved striae; the median streak of the metasternum and abdomen bears a few very fine punctures.

The mesosternal process is strongly protruding and obliquely directed forwards and downwards; it is compressed (higher than broad), truncate at the apex where it is highest, the upper and under margins divaricating in curved lines; the lower angle of the truncation is broadly rounded, the upper angle sub-acute; the upper side of the process is finely strigose, whereas a deep furrow is present along the sides which, as well as the under side, are impunctate; the under side, however, shows a fine line along the middle which is continued to the hind margin of the metasternum.

Of the anterior and intermediate legs the coxae are transversely strigose, the femora obliquely so, the latter moreover provided with a few large punctures; of the posterior pair of legs the coxae are sparingly covered with shallow punctures and a few striae, the femora with oblique striae and a few punctures; the anterior tibiae have a few longitudinal striae and large punctures, their outer margin is armed with two distinct teeth before the apical one; the intermediate and posterior tibiae are likewise strigose and punctate, provided with an obsolete narrow groove along the inside, and notched on the outside about one-third from their apex (very indistinctly however on the intermediate pair); the apical margin of the posterior tibiae is tricuspidate on the outside, that of the intermediate ones bicuspidate.

Hab. West Sumatra: Klein Mandeling, Tapanoeli Residency (A. L. van Hasselt). — A single female specimen in the Leyden Museum.

I dedicate this very conspicuous species, which will prove to be allied to *Lomaptera striata* Wall., to the late Prof. Westwood, who died at Oxford the 2nd of this month at the age of eighty seven.

Leyden Museum, January 1893.

NOTE XVII.

DESCRIPTION DE QUATRE ESPÈCES
NOUVELLES DU GENRE RHYPARUS, WESTW.

(SCARABAEIDAE: COPRINI)

PAR

L. FAIRMAIRE.

1. *Rhyparus denticollis*, n. sp.

Long. 6 mill. — Elongatus, parallelus, fuscus, opacus, antennis palpisque ferrugineis; *R. sumatrensis* Fairm.¹⁾ affinis, similiter coloratus, sed multo minor et angustior, capite minus brevi, minus transverso, antice quadriangulato, haud truncato, fronte medio breviter biplicato, prothorace subquadrato, elytris paulo angustiore, lateribus antice valde angulatim exsertis, medio obtuse angulatis, basi paulo angustato, dorso sexcarinato, carinis lateralibus interruptis, carinis nitidis; elytris oblongis, subparallelis, sutura elevata et utrinque costis 3 ante apicem incrassatis et abbreviatis, elytrorum apice fortiter declivi et utrinque tuberculo grosso signato, costa 3^a basi intus paulo obliquata, interstitiis latis, planis, biseriatim leviter transverso-impressiusculis; pectore rugoso, prosterno antice et postice acute producto, abdomine lateribus transversim impresso, femoribus intermediis intus obtuse biangulatis.

Hab. Java. orient.: Mont Ardjoeno (W. E. J. Hekmeyer).
— Musée de Leide.

1) Notes from the Leyden Museum, XV, p. 17.

La tête est bien moins courte et moins large que chez le *sumatrensis* où elle paraît presque tronquée; les côtes latérales du corselet sont interrompues par une impression assez profonde, les 2 médianes sont parallèles; les angles antérieurs sont aussi saillants, mais tronqués obliquement.

2. *Rhyparus approximans*, n. sp.

Long. $5\frac{1}{2}$ à 6 mill. — Præcedenti simillimus, prothorace latiore, elytris haud angustiore, angulis anticis valde obtusis, carinis 2 discoidalibus minus parallelis, antice leviter approximatis, elytris magis parallelis, costis apice minus incrassatis, sutura apice magis producta, tuberculis apicalibus magis truncatis, interstitiis subtilius serie-punctatis, femoribus intermediis simplicibus sat distinctus.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha). — Musée de Leide.

3. *Rhyparus obsoletus*, n. sp.

Long. 5 mill. — Præcedenti simillimus, et tantum carinis prothoracis discoidalibus, angulis anticis obtusissimis, posticis valde obtusis, subrotundatis, elytrorum intervallis grossius punctatis, femoribus intermediis subtus obsolete unidentatis distinguendus.

Hab. Sumatra occ.: Tambang Salida (J. L. Weyers). — Musée de Leide.

4. *Rhyparus helophoroides*, n. sp.

Long. $3\frac{1}{2}$ à 4 mill. — Præcedentibus valde affinis, sed magis ater, minor, prothorace basi elytris vix angustiore, lateribus antice valde sinuato, angulis anticis plus minusve obtuse productis, lateribus medio sat fortiter angulatis, carinis discoidalibus antice paulo approximatis, interstitiis grossius granulosus, elytris paulo brevioribus, carinis apice paulo minus incrassatis, interstitiis profundius seriato-punctatis, fere transversim plicatulis, seriebus interdum lineola subelevata longitudinaliter separatis.

Hab. Bornéo occ.: Sambas (Dr. J. Bosscha); Java: Simpar et Kemanglen, rés. Tegal (Mr. Th. F. Lucassen). — Musée de Leide.

Les angles antérieurs du corselet sont assez variables, plus ou moins saillants, mais toujours obtus ou arrondis; la forte ponctuation des élytres et la petite taille rendent cette espèce facile à reconnaître. Elle ressemble extrêmement au *R. Desjardinsii* de l'île Bourbon et n'en diffère guère que par la taille plus faible, la forme plus étroite, le corselet plus court et les élytres à 1e côte entière, le 2e intervalle à 2 séries de gros points au lieu de 3.

La découverte de ces nouvelles espèces du genre *Rhyparus* est fort intéressante, et vient à l'appui des rapprochements signalés entre la faune de Madagascar, de l'île de France et de Bourbon avec les faunes indiennes et malaises. Le genre *Callirhipis* que j'ai signalé aux Seychelles, est un exemple également frappant de ces rapprochements. Mais ne serait-il pas possible que le genre *Rhyparus* ait été importé à Bourbon avec la terre des plants qu'on y a transportés au commencement de la colonisation?

Paris, Janvier 1893.

NOTE XVIII.

ON A COLLECTION OF SHELLS FROM THE MOLUCCAS

BY

M. M. SCHEPMAN.

(Plate 3).

The shells mentioned in this paper, were, for the greater part, collected by Prof. K. Martin on his journey in the East Indian Archipelago, which was undertaken with geological purposes. Another series was brought together by G. W. W. C. Baron van Hoëvell, Resident of Amboyna. This second series contained only a few species, which were, however, represented by a large number of individuals. All these specimens are presented to the Leyden Museum by Messrs. van Hoëvell and Martin. I have included two species from Celebes, though this isle does not belong geographically to the Moluccas. The most interesting part of the collection, consists in the large number of smaller species from a cleft in coral-limestone on Saparoea. From this isle only a few species were known, by the recent publication of Prof. Boettger on the Mollusks collected by Mr. A. Strubell (Bericht Senckenb. naturf. Gesellsch. 1891, pp. 241—318). The list is now considerably enlarged by the discoveries of Prof. Martin.

Only one species, a *Macrochlamys*, is new to science, and of the variety of another, *Helix unguiculastra* var. *pilosa* Mart., the exact locality was still unknown. Moreover I have described a new variety of *Helix zonaria* Linn. As, however, many species are remarkable on account of their variability or their localities, I thought it might be desirable to give the complete list.

Notes from the Leyden Museum, Vol. XV.

1. *Nanina (Xesta) citrina* Linn.

Martens, Ostas. Landschn. p. 193, pl. 6, figs. 1, 2; pl. 7.

From Leitimor, the southern peninsula of Amboyna, a large number of specimens has been procured by Baron van Hoëvell, all belonging to the typical form, with rounded aperture; many specimens are citron yellow, with one more or less dark brown band at the periphery, bordered by a broad whitish zone and a second narrow one at the sutures; a few specimens are orange yellow with a brown band, others are pale yellow without brown band, a single one is purple-brown with only the white zones; a rather large number belongs to

mutatio dimidiata Fav.,

which has the upper part of the shell brown, the under part whitish or yellowish; to this variety likewise belong: a specimen from North Ceram, 2 young specimens from Wabaai, Ceram, and 3 very young ones from Porto, Saparoea; those from Ceram are collected by Martin. A few young specimens from this last locality may be classified as belonging to the type; this is also the case with 2 specimens from Hatoesoea, Ceram, collected by Martin, and with a few from the district Wahaai, near the Toloearang; 3 young or bad specimens may belong to var. *columellaris* Beck. Still should be mentioned a variety of a more or less dark purple brown colour, with whitish zones near the sutures and periphery, some of the specimens with one brown band like the type, which variety resembles the next species in colour, but, according to the rounded aperture and more conical shape, belongs to *N. citrina*; it is figured by Reeve (Conch. Ic. Mon. *Helix*, fig. 482^d). Martin collected 2 specimens at Porto, Saparoea, and another individual, without brown band, on the same isle, but without noticing the exact locality, while Baron van Hoëvell procured specimens from the kampong Saparoea.

2. *Nanina (Xesta) Strubelli* Boettger.

Boettger, Bericht Senckenb. naturf. Gesellsch. 1891, p. 253, pl. 3, figs. 2, 2^a.

Of this species, which Prof. Boettger has distinguished from the preceding by its depressed shape and square-elliptical aperture, one specimen has been collected by Baron van Hoëvell at Porto, Saparoea, which, after Boettger, belongs to the type, but is very large, having a diam. major of 43 mill. Of two specimens collected by Martin, the one from Hitoe, Amboyna, is quite typical in its measurements, while the other, from Poeloe Poea (near Boeanó), is only a trifle smaller than the first, but more depressed.

3. *Macrochlamys Martini*, n. sp.

(Plate 3, fig. 1).

*Testa perforata, subdepressa, sericeo-nitens, lineis spirali-
bus confertis sculpta, pallide cornea, infra pallidior, ad
suturam zona opaca, luteo-albida picta; spira convexa, sutura
superficialis; anfractibus 4, convexiusculi, ultimus depresso-
rotundatus, antice haud descendens; apertura paulum obliqua,
late lunata; peristoma rectum, acutum; margo columellaris
ad insertionem breviter reflexus.*

Diam. maj. $8\frac{1}{2}$, min. $7\frac{1}{3}$, alt. 5; apert. lat. $4\frac{1}{2}$, alt. 4 mill.

This new species is mainly distinguished from the smaller species of *Macrochlamys* from the East-Indian Archipelago, by the impressed spiral lines. *M. consul* Pfr. and *fulvocarnea* Martens are much larger and quite different in colour. From *M. (Hyalina) amboinensis* Martens, which is the only allied species of the Moluccas recorded by v. Martens, it may be distinguished by its shape, paler colour, smaller perforation, and shallow suture, but above all by the distinct spiral lines.

The specimens were collected with the next species by Prof. Martin, and I have much pleasure in dedicating this species to its discoverer.

4. *Trochomorpha planorbis* Lesson,
var. *Lessoni* Martens.

Martens, Ostas. Landschn. p. 249, pl. 13, fig. 4.

From Saparoea, Goenoeng Rila; found by Martin in a cleft in coral-limestone; 3 specimens.

The spiral striae of the underside are only visible with the aid of a very strong lens.

5. *Kaliella milium* Martens.

Helix miliacea Martens, Ostas. Landschn. p. 268, pl. 12, fig. 15.

Of this species, which Prof. v. Martens named *H. milium* in Monatsber. Berl. Acad. 1864, one fine specimen has been found by Martin, together with the preceding species.

6. *Helix (Chloritis) unguolina* Linn.

Martens, Ostas. Landschn. p. 279.

One typical specimen, collected by Martin in the district Wahaai, near the Toloearang, Ceram; from this isle it has also been recorded by v. Martens and Wallace. Its largest diameter is 41 mill.

7. *Helix (Chloritis) unguiculastra* Martens,
var. *pilosa* Martens.

Martens, l. c. p. 282.

Of this rare shell, one rather fine specimen has been collected by Martin at Saparoea. By this discovery the exact locality, which remained still doubtful, is now established.

8. *Helix (Planispira) zonaria* Linn.

Martens, Ostas. Landschn. p. 307, pl. 16, figs. 6—11; pl. 19, fig. 6.

A large number of specimens has been collected by Baron van Hoëvell and a few others by Martin; many of them, especially those from Leitimor, Amboyna, belong to:

var. lineolata Martens.

The specimens from the last-named locality agree for the greater part with pl. 16, fig. 6 of v. Martens; other ones are smaller and less marked with the greyish spots, they have the bands 3 and 4, if one of them is lost it is the 3rd; other specimens are quite destitute of bands. One very remarkable specimen is distinctly keeled by a prominent rounded keel near the base and it has a second one near the umbilicus. I am, however, convinced that it is only a monstrosity, perhaps caused by some wound of the soft parts, while in the act of building the shell.

The specimens from Porto, Saparoea, belong to this variety by their colours, though in shape they come near to *var. nitidiuscula* Boettg. Those from the neighbourhood of the kampong Saparoea have the shape of *var. nitidiuscula*, but they are slightly flattened; many of them have the same pattern as *var. lineolata*, but the lustre of *var. nitidiuscula*, some are banded and others without bands, even nearly white; they pass imperceptibly into

var. nitidiuscula Boettger.

Boettger, Bericht Senckenb. nat. Gesellsch. 1891, p. 265.

From the kampong Saparoea. A few specimens, one brown or yellowish white, with one or two bands, and one specimen without bands.

Another specimen from Aboro, Haroekoe, is yellowish white, with the bands 3 and 4.

A large number from Porto, Saparoea, also collected by Baron van Hoëvell, shows a great diversity of colours and markings; the chief variations are:

- a. more or less dark brown, with the bands 3 and 4 or one of them.
- b. under part of shell nearly white, the upper part with obsolete flames; bands 3 and 4 or one of them.
- c. like the preceding, but the space between the suture and 3rd band chestnut-brown.

- d. nearly white, with band 4 and sometimes with traces of other bands.
- e. like the preceding, but only with band 3.
- f. like the preceding, with bands 3 and 4.
- g. brown or yellowish white, or yellow without bands or with very faint ones.
- h. subvar. *albina*; white with a yellowish tint.

All these variations are connected by intermediate links.

Martin has collected at Wahaai, Ceram, a very fine variety, which does not agree with any other, and which I must consider as new. I name it after its discoverer

var. *Martini*.

(Plate 3, fig. 2).

Shell small, much depressed, with a more transverse-oblong aperture, peristome widely expanded, last whorl commonly but slightly deflected. The shell is transparent, horny, with one dark brown peripheral band (n°. 3) often occupying only the second part of the last whorl; above and below the surface is adorned with alternating transparent and opaque white bands; space near the umbilicus uninterruptedly pellucid (one specimen has a broad brown band along the suture and two narrow ones between this and the peripheral one).

diam. maj. 21, min. $15\frac{1}{2}$, alt. $7\frac{1}{2}$, apert. lat. incl. perist.

[$11\frac{1}{2}$, alt. 9 mill.

» » 24, » 19, » 10, apert. lat. incl. perist.

[$13\frac{1}{2}$, alt. $10\frac{1}{2}$ mill.

Prof. v. Martens calls the colour of his var. *fasciata*, the only one collected by him at Wahaai, pure white, while this new variety is remarkable by its transparency in fresh specimens. Moreover only one specimen agrees with the measurements. It may have many affinities with var. B. of *Tapparone Canefri* (Ann. del Mus. Civ. di Storia nat. di Genova, 1883, p. 152), but the umbilicus is not larger than in other varieties.

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At last should be mentioned another variety from the same locality, which, according to Prof. v. Martens, belongs to his var. *fulminata*, but is smaller; the aperture in the specimens collected by Martin is more rounded than that of any of the preceding varieties, the peristome is brownish; its measurements are:

diam. maj. 21—22, min. 17—18, alt. 9—9½; apert. lat.
[10½—11, alt. 10 mill.

9. *Pythia scarabaeus* Linn.

Pfeiffer, Mon. Auric. p. 82.

A few specimens from Aboro, Haroekoe, collected by Baron van Hoëvell, varying in colour and shape, as recorded by nearly every author on this genus. One specimen is yellowish white, with only very few brown spots. Martin collected one specimen on Saparoea and another at Hatoesoea, Ceram; this last specimen has the umbilicus nearly closed.

10. *Pythia semisulcata* A. Adams.

Adams, Proc. Zool. Soc. London, 1850, p. 151.

From this species a few specimens were collected by Baron van Hoëvell along with the preceding *Pythia*; as I could not determine it, I asked the assistance of Prof. Boettger of Franckfort, who identified it as *semisulcata* Ad. The specimens agree with the description of Adams, but the measurements differ considerably from those given by Dr. Pfeiffer (Mon. Auric. p. 93), the largest specimen having a total length of 32 mill., the diam. maj. is 20, diam. min. 15½ mill. (in Pfeiffer's Monograph 27: 14:11). One specimen is nearly white, the other ones vary in colour and in the umbilicus which is more or less large.

Two young specimens from Saparoea, collected by Martin, seem to belong to the same species.

11. *Pythia striata* Reeve.

Pfeiffer, l. c. p. 94. — Boettger, Bericht Senckenb. naturf. Gesellsch. 1891, p. 277.

A large number of specimens is collected by Mr. van Hoëvell at Aboro, Haroekoe. They vary much in colour, in the umbilicus, and also in shape and height of the whorls, consequently of the spire.

12. *Pythia crassidens* Hombr.

Boettger, l. c. p. 275.

It is not without hesitation that I make mention of this species, which has many affinities with *P. striata* and *pantherina* Ad.; the umbilicus is perfectly closed or at least nearly so. In a genus where this character is subject to so much variation, I should suggest, that by more material, these species will prove to pass into each other. It is not difficult to find in a large lot (there are more than 150 specimens of this and the preceding species) specimens which would be considered as the type of a new species, but on comparison every character is variable.

13. *Melania crenulata* Deshayes.

Brot, in Martini-Chemn. 2^d. Ed., Mon. *Melania*, p. 114, pl. 14, figs. 9, 9^a—9^f.

One much eroded specimen seems to belong to var. B of Brot (= *M. Tirouri* Desh.), but is much smaller, being only 42 mill. in length. It has been collected in the Ajjer Besar near Waisama, Ceram.

14. *Melania funiculus* Quoy & Gaim.

Brot, l. c. p. 136, pl. 17, figs. 1, 1^a, 1^b.

Two specimens together with the preceding species.

15. *Melania clavus* Lamarck.

(Plate 3, fig. 3).

Brot, l. c. p. 175, pl. 21, figs. 17, 17^a—c.

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The only specimen, collected by Martin in the same locality as the preceding species, resembles in shape fig. 17 of Brot, but differs by the ribs, which cover the whole shell, though on the last whorl they become obsolete.

16. *Paludina costata* Quoy & Gaim.

Quoy & Gaim., Voy. de l'Astrolabe, pl. 80, figs. 1—3.

A few specimens, varying much in the number of spiral keels, were collected by Martin in the lake of Tondano, Celebes. The largest specimen has a length of 45 mill.

17. *Stenothyra ventricosa* Quoy & Gaim.

Mousson, Land u. Süssw. Moll. von Java, p. 63, pl. 8, fig. 6.

One specimen without operculum, together with the preceding species.

18. *Leptopoma vitreum* Lesson.

Martens, Ostas. Landschn. p. 143 pro parte.

Large numbers of specimens have been collected by Martin at Wahaai, North Ceram; near Honitetoe, West Ceram; also a small variety at Kajeli, Boeroe; at last a few broken specimens from Saparoea may belong to this species.

Those from Wahaai are generally large, a few specimens have brown zigzag lines, one specimen has moreover two distinct brown bands, which are obsolete in another specimen with broad flames, while a third has only 2 bands; many specimens have slight crenulations on the backside of the peristome, recalling in mind *L. crenilabre* Boettg., which has, however, a much broader peristome, with more and deeper crenulations, and the auricle near the columella is different; a few specimens from Wahaai in another box and probably from a somewhat different locality, are smaller and white, with the exception of one young specimen, which is banded.

The specimens from West Ceram vary in the same manner

as those from Wahaai, a few specimens being brown banded or flamed.

In Boeroe a small variety has been collected with the next species; a comparison of the measurements show the differences; they are in specimens from:

Wahaai: diam. maj. incl. perist. 16, alt. 15 mill.

Kajeli: » » » » $12\frac{2}{3}$, » 12 mill.

A still smaller specimen has only a diam. maj. of $11\frac{1}{2}$ mill.

The presence of bands in some specimens, which, on account of the deep notch of the columella, belong without doubt to *L. vitreum*, renders this character valueless to distinguish *L. vitreum* from *pellucidum* Grat., as suggested by Dr. von Moellendorff.

19. *Leptopoma intermedium* Martens.

Martens, Ostas. Landschn. p. 144, pl. 4, fig. 4.

Of this species, which has been separated by many authors from the preceding one, a full-grown specimen and a few young ones are brown with the keels whitish.

Locality: Kajeli, Boeroe.

20. *Cyclotus amboinensis* Pfr.

Martens, Ostas. Landschn. p. 121, pl. 2, figs. 4, 5.

A few specimens, most in bad condition, from Saparoea, Goenoeng Rila, in a cleft in coral-limestone, and another from Wahaai, all collected by Martin.

21. *Cyclotus plicōsus* Martens.

Martens, Ostas. Landschn. p. 125, pl. 2, figs. 13, 14.

From Saparoea, together with the preceding species.

22. *Cyclotus liratulus* Martens.

Martens, Ostas. Landschn. p. 127, pl. 2, fig. 15.

From the same locality as the preceding species: this one and *C. plicōsus* are not in a very good condition and the characteristic sculpture is obsolete.

23. *Omphalotropis ceramensis* Pfr.

Martens, Ostas. Landschn. p. 160, pl. 4, fig. 11.

A few specimens, collected by Martin together with the preceding species. They are smaller than those described by v. Martens, varying from 7 to 9 mill. in length. In every other respect they agree with his description and figure.

24. *Helicina oxytropis* Gray.

Martens, Ostas. Landschn. p. 166, pl. 4, fig. 20.

Many specimens along with the preceding species. They are very small, having only a diameter of 7 mill.

25. *Helicina suturalis* Martens.

Martens, Ostas. Landschn. p. 168, pl. 4, fig. 18.

Along with the preceding species.

26. *Helicina Idae* Pfr.

Martens, Ostas. Landschn. p. 170, pl. 4, fig. 19.

A few specimens along with the two preceding species.

The three species of *Helicina* are new for the Mollusk-fauna of Saparoea.

27. *Neritina (Neritaea) pulligera* Linn.

Martens, in Martini-Chemn. 2^d Ed. Mon. *Neritina*, p. 49, pl. 1, figs. 4, 5.

One specimen from the northern coast of Ceram, and another from Hatoesoea, Ceram; both collected by Prof. Martin.

28. *Neritina (Neritaea) iris* Mouss.

Martens, l. c. p. 52, pl. 9, figs. 5, 6.

A few specimens from Hatoesoea, Ceram, collected by Martin; they are nearly all inhabited by hermit-crabs, and in consequence the denticles of the columellar margin are destroyed.

29. *Neritina (Neritodryas) cornea* Linn.

Martens, l. c. p. 140, pl. 12, figs. 14—18.

One specimen, collected along with the preceding species. Prof. v. Martens has not recorded it from Ceram.

30. *Septaria suborbicularis* Sow.

Martens, in Martini-Chemn. 2^d ed. Mon. *Navicella*, p. 31, pl. 6, figs. 5—14.

Many specimens from a brook at the southern coast of Leitimor near Ema, Amboyna, collected by Martin; a few belong to the subvariety *furcato-radiata* Martens.

31. *Cyrena coaxans* (Gmel.) Martens.

The distinction of the species in the genus *Cyrena* is so very difficult, that I was obliged to ask the assistance of Prof. v. Martens, who informed me that the present species is identical with that, which is named *C. cyprinoides* Quoy & Gaimard in the Berlin Museum and also in Malak. Blätter, X, 1863, p. 130, and figured by Reeve, Conch. Iconica, Mon. *Cyrena*, pl. 7, fig. 24, under the name of *cyprinoides*, but that on comparison with the original figure in the »Voyage de l'Astrolabe», it is doubtful whether it be the same species, this figure being more angulate behind; that it is, however, without doubt the species described by Rumphius as *Chama lutaria et coaxans*, called *Venus coaxans* by Gmelin, and that it should therefore be named *Cyrena coaxans*, though Gmelin has confounded it with *C. ceylonica* Chemn. In consequence the synonymy should be:

Cyrena coaxans (Gmel. sp. pars) Martens.

» *cyprinoides* Martens (olim) non Quoy & Gaimard.

» » Reeve, fig. 24.

One specimen has slight divaricating plicae on the epidermis of the posterior part, calling in mind *C. divaricata*. After comparison of the figure of Reeve, they seem

much less developed and may depend only on individual variation.

Locality: Pasahari, Ceram, collected by Martin.

32. *Cyrena papua* Lesson.

Prof. v. Martens says that the specimens, collected along with the preceding species, better agree with *C. papua* than with any other, and may be also the true *C. cyprinoides* Q. & G. The largest specimen is much larger than the figure of Lesson in Guérin's *Magasin de Zoologie*, 1832, Moll. pl. 11; a single valve, however, of a young specimen agrees rather well. It agrees perhaps still better with *C. cyprinoides* of Clessin's *Monograph* in the 2^d ed. of Martini-Chemnitz, p. 124, pl. 20, figs. 3 and 4, in the position of the posterior angle. If the suggestion of Prof. v. Martens, that *cyprinoides* and *papua* are the same species, is right, the latter name has the priority.

Rhoon near Rotterdam, December 1892.

CORRECTIONS.

Dr. H. ten Kate informs me as follows about some of the localities mentioned in Note XXVII of the preceding volume:

Pensadœ Kopol and 'Ndatas must be Pengadœ Kapal and 'Ndatar.

Lahoeroe » » Lahoeroes.

Amarassi is not situated in central Timor, but on the South western coast.

Soesoek and Ainiba are the names of the lakes themselves and not of kampongs as I suggested in writing: „near Soesoek and Ainiba”.

M. M. SCHEPMAN.

NOTE XIX.

SUPPLEMENTARY LIST OF THE DESCRIBED
SPECIES OF THE GENUS HELOTA

BY

C. RITSEMA Cz.

Since the publication of my »Synopsis and List of the described species of the genus *Helota*» (Notes Leyd. Mus. XIII, 1891, p. 223), in which 37 species are enumerated, the following 8 species have been described:

<i>affinis</i> Rits. Notes Leyd. Mus. XIII, 1891,	Burma.
p. 253 (near <i>dubia</i> Rits.).	
<i>Desgodinsi</i> Rits. l. c. XV, 1893, p. 131.	Sikkim.
(near <i>curvipes</i> Oberth.).	
<i>guttata</i> Rits. l. c. XV, 1893, p. 134.	»
(near <i>serratipennis</i> Rits.).	
<i>Pasteuri</i> Rits. l. c. XV, 1893, p. 111.	Java.
(near <i>Vandepolli</i> Rits.).	
<i>pustulata</i> Rits. l. c. XV, 1893, p. 133.	Sikkim.
(near <i>curvipes</i> Oberth.).	
<i>Severini</i> Rits. l. c. XV, 1893, p. 138.	»
(near <i>notata</i> Rits.).	
<i>tibialis</i> Rits. l. c. XV, 1893, p. 136.	Darjeeling.
(near <i>laevigata</i> Oberth.).	
<i>ventralis</i> Rits. l. c. XIII, 1891, p. 251.	Burma.
(near <i>Kolbei</i> Rits.).	

Leyden Museum, January 1893.

NOTE XX.

ESPÈCE NOUVELLE DU GENRE NECROPHORUS DE
L'ARCHIPEL INDO-NÉERLANDAIS

DÉCRITE PAR

A. GROUVELLE.*Necrophorus insularis*, n. sp.

Niger; antennarum tribus ultimis articulis, elytrorum epipleuris et duabus fasciis transversis aurantiacis; prima fascia subbasali, humeros attingente et suturam versus interrupta, infra humeros nigro-punctata; secunda fascia subapicali, flexuosa, suturam lateraque haud attingente; prothorace transverso, angulis omnibus rotundatis; elytris glabris, lateribus parce pilosis; pectore et apice abdominis brunneo-pubescentibus; tibiis posticis rectis.

Mas. Clypeo medio membranaceo-depresso, rufo-testaceo.

Long. 19 à 20 mill.

Noir; trois derniers articles des antennes, épipleures des élytres et deux taches transversales sur chacune d'elles rouges orangés. Première tache atteignant à son bord basilaire le niveau du sommet de l'écusson, interrompue avant la suture, s'élargissant vers l'épaule en enclosant un point noir et se réunissant à la bande rouge de l'épipleure. Deuxième tache subapicale, irrégulièrement limitée sur le fond noir, n'atteignant ni la suture, ni le bord marginal. Quelques poils noirs vers les angles postérieurs de la tête. Prothorax transversal; angles antérieurs et postérieurs largement arrondis; bord antérieur droit, base arquée. Elytres très éparsement pubescentes sur les côtés, bords

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latéraux frangés de poils gris, plus développés surtout vers le sommet. Poitrine et sommet de l'abdomen garnis de longs poils bruns. Tibias postérieurs droits. Epistome du mâle rouge.

Hab. Sumatra (Musée de Leide). — Les exemplaires proviennent de l'Expédition IJzerman et sont offerts par le Dr. J. F. van Bemmelen.

Paris, Janvier 1893.

NOTE XXI.

NOTICE

SUR LA NOCTUA (APATELA?) RADIANS, WESTW.

PAR

P. C. T. SNELLEN.

Sous le nom susdit, feu le Prof. Westwood a décrit et figuré dans son ouvrage intitulé »Cabinet of Oriental Entomology" (p. 58, pl. 28, fig. 4), un Lépidoptère Hétérocère d'un aspect un peu insolite. A la première vue, on croirait avoir affaire à un Cosside du voisinage du genre *Zeuzera* Latr., auquel la forme allongée de ses ailes antérieures à sommet arrondi fait en effet penser. Je présume que ce facies étrange a empêché Guenée de le comprendre parmi les Noctuérites dans son grand ouvrage sur cette famille. Pourtant, l'espèce se classe indubitablement parmi les Noctuelles, et Mr. Westwood avait bien vu quand il considérait son espèce comme telle, quoique le nom générique d'*Apatela* Stephens, qui correspond au genre *Acronycta* Ochs., Guenée et Lederer, me semble appliqué fort au hasard.

J'avais depuis longtemps dans ma collection deux mâles de la *radians*, un des îles Aroe, provenant du voyage de Mr. C. Ribbe, et un autre des îles Key, dont Mr. Piepers avait fait l'acquisition, mais la femelle m'était encore inconnue. Le Musée de Leide ayant reçu de Mr. A. L. van Hasselt, Résident de Tapanoeli (Sumatra occidentale), à la bonté duquel il doit déjà tant d'objets d'histoire naturelle précieux, un exemplaire féminin frais et bien conservé, pris à Tano Bato (Tapanoeli) le 11 Novembre 1891, je demandais et j'obtenais sans peine de Mr. Ritsema la

permission d'examiner cet exemplaire et de le comparer à mes deux mâles, afin de préciser, autant que possible, la position de la *radians* dans le système.

Comme je le disais plus haut, il est hors de doute que l'espèce appartient aux Noctuérites. Le papillon n'a qu'une nervure interne simple aux premières ailes et deux aux secondes, qui ont aussi une nervure sous-costale distincte. Cette nervure n'est soudée qu'à la base du bord antérieur de la cellule discoïdale et s'en dégage bientôt pour aboutir au bord antérieur. Les antennes sont sétacées, la nervure 5 des premières ailes prend son origine très-près de la nervure 4, et le frein des secondes ailes est très-distinct. Tous les caractères de la famille des Noctuérites, comme ils sont établis par Lederer, Noctuien Europa's, sont donc présents. Je puis ajouter que les premières ailes ont une aréole et que le papillon possède des stemmates, mais ils sont petits.

Passant aux caractères qu'on peut considérer comme génériques, je vois que les yeux sont nus, non ciliés, et que le front s'avance en une petite pointe, un peu comme chez le genre *Gortyna*, chez lequel ce caractère est cependant plus prononcé. De ce genre, la *radians* s'éloigne à la première vue par la forme des ailes antérieures allongées à sommet arrondi, au lieu de triangulaires à sommet pointu. De même la vestiture du thorax est tout-à-fait arrondie, sans crêtes d'aucune sorte. Le genre auquel appartient la *radians* ne peut donc se trouver dans le voisinage de *Gortyna*, mais en la comparant aux autres Noctuérites de la Faune Palaearctique, on est très-naturellement conduit à chercher sa place auprès du genre *Brithys* Hübn., Led. (*Glottula* Guenée). La forme des ailes et l'aspect général des espèces composant ce genre dénotent une parenté réelle. Cependant, les yeux velus, le front arrondi et les antennes très-courtes de *Brithys* sont des obstacles très-forts et pleinement suffisants pour empêcher de classer notre espèce dans ce genre. Toutefois, c'est dans la sous-famille II^e, les Glottulidae Guenée, que se place assurément la

radiani, mais aucun des trois autres genres qui, outre le genre *Glottula* Guenée, composent ce groupe, ne peut la recevoir. Je ne possède pas l'espèce du genre *Callyna* Guenée, mais comme l'auteur indique que la nervure indépendante des secondes ailes (la nervure 5 de Herrich-Schäffer et de Lederer) est aussi forte que les autres, ce qui n'est pas précisément le cas pour la *radiani*, et que les mêmes ailes sont larges et sinuées, ce qui n'est non plus vrai pour elle, je cherche ailleurs. Chez le genre *Polytela* Guenée, dont je possède la *gloriosa*, je trouve des yeux velus et un front bombé, arrondi. Chez le genre *Noropsis* Guenée, que je possède aussi, les yeux sont nus, mais le front est encore plus fortement bombé et de plus la nervure 5 des secondes ailes est non seulement aussi forte que les autres mais insérée auprès de la nervure 4 et recourbée à sa naissance. Tout porte donc à considérer la *radiani* comme formant un genre distinct, pour lequel je crois que nous pouvons sans inconvénient adopter le nom d'*Apsarasa* Walker, en suivant l'indication donnée par Mr. Moore qui décrit une seconde espèce dans les Proceedings of the Zoological Society of London, 1877, p. 604, dont je parlerai aussitôt.

Pouvant considérer les caractères génériques comme suffisamment établis, nous passons aux caractères spécifiques. Pour ceux-ci, je puis renvoyer à la description de Mr. Westwood, qui est pleinement suffisante, les petites divergences de la figure peuvent être mises sur le compte du coloriste. Il est vrai que je note aussi quelques différences avec mes exemplaires dans la forme des taches jaunes qui bordent les ailes antérieures, mais assurément on ne peut y attacher aucune importance. Je pense qu'on ne trouvera pas deux exemplaires tout-à-fait égaux de cette espèce. Aussi la seconde espèce du genre *Apsarasa*, décrite par Mr. Moore (Proceed. Zool. Soc. London, 1877, p. 604) sous le nom de *figurata*, provenant des îles Andaman méridionales et basée sur la moindre dimension des taches susdites, sur la forme un peu différente de la plus grande

tache du bord intérieur («hind margin" de Mr. Moore), sur la moindre étendue du blanc des ailes postérieures et sur le blanc aussi plus réduit du bout et du dessous de l'abdomen, n'est donc certainement qu'une variété légère de la *radians*.

Dans les *Annals and Magazine of Natural History*, 5th Series, vol. VII, p. 37 (1881) Mr. Butler a décrit comme troisième espèce du genre *Apsarasa*, un Lépidoptère de l'Afrique occidentale, sous le nom de *liturata*. C'est la même que: *Hypsa concinnula* Mabilie, Bull. Soc. Zool. de France, 3, p. 85 (1878), — *id.*, Annal. Soc. Ent. de France, 5^e Série, IX, p. 294, Pl. 6, fig. 2 (1879), et aussi que *Mila hebraica* Aurivillius, Ent. Tidskr. 12, p. 228, Tab. 1, fig. 3 (1891), comme Mr. Aurivillius le relève fort-à-propos: Ent. Tidskr. 13, p. 187 (1892).

Concinnula est certainement le nom spécifique le plus ancien, mais il est aussi hors de doute que l'espèce n'appartient pas au genre *Hypsa*. Elle a, au contraire, beaucoup d'affinité avec le genre *Apsarasa* comme le dit Mr. Aurivillius, qui établit pour elle, sous le nom de *Mila*, un nouveau genre, se distinguant principalement d'*Apsarasa* par la protubérance du front plus obtuse, car elle n'est pas placée plus haut que chez la *radians*. On ne peut dire non plus que les ailes antérieures soient plus allongées chez la *radians*: ceci ne s'applique qu'à la femelle, celles du mâle de la *radians* sont plus courtes.

Mr. Aurivillius ne dit rien des yeux de la *concinnula*, ni si elle a une trompe ou non. Une description détaillée de la nervulation n'aurait été non plus superflue. Du reste, il est absolument hors de doute que ni le genre *Apsarasa*, ni le genre *Mila*, appartiennent à la sous-famille Agaristidae des Lithosina.

La *radians* m'est maintenant connue d'Assam (Westwood), de Sumatra (Musée de Leide), des îles Aroe et Key (ma collection) et des îles Andaman (var. *figurata* Moore).

Mes deux mâles ont une envergure de 37 et 42 millimètres, la femelle de 49 millimètres.

Rotterdam, Janvier 1893.

NOTE XXII.

ON TWO NEW SPECIES OF PACHYCEPHALA
FROM SOUTH CELEBES

BY

J. BÜTTIKOFER.

While looking through the species of the genus *Pachycephala* in the Leyden Museum, I met with two species which will prove to be new to science. They were collected in 1878, in the district of Macassar, South Celebes, by the well-known Dutch Naturalist Teysmann, and they will form the second and third species hitherto with certainty stated from Celebes, the first being *P. sulfureiventer* (Walden) from North Celebes.

1. *Pachycephala teysmanni*, n. sp.

Similar to *P. orphea* Jard. from Timor, with the exception of the ashy gray head and the much stronger bill. Entire crown, including forehead, nape, lores, sides of head and ear-coverts, uniform ashy gray without any tinge of olive; mantle, back, rump, upper tail-coverts and tail above and below olive-green; the rump, upper tail-coverts and outer edge of tail-feathers strongly tinged with yellow; wings blackish, the primaries edged on the basal half with yellowish green, on the terminal half with pearly gray, the secondaries and upper wing-coverts more broadly edged with yellowish green, edge of wing yellow. Chin and throat white, breast, flanks and abdomen pale fawn, the latter with a yellowish hue, under tail-coverts bright

yellow, thighs yellowish green, under wing-coverts and inner edge of quills from underneath pale fawn. Bill black, feet brown.

One of the three specimens, probably not fully adult, differs from the two other in having the olive edges to the inner secondaries strongly tinged with fawn, and some fawn-colored feathers are also found on the gray head and hind neck. All three specimens are unsexed, but judging from analogy in the closely allied *P. orphea*, the female is quite alike the male.

Wing 7,1—7,3 cm., tail 6, culmen 1,7, tarsus 2.

2. *Pachycephala meridionalis*, n. sp.

Similar to *P. sulfureiventer* (Wald.) from North Celebes, but differs in the browner tinge of the upper surface and in the somewhat larger size. The upper surface is reddish brown, with hardly any tinge of the olive which characterizes the northern form; chin and throat are less pure white, the fawn-color on the chest a trifle darker, the yellow on lower breast, abdomen and under tail-coverts by far not so rich. Bill black, feet brown.

	Wing	tail	culmen	tarsus
<i>P. sulfureiventer</i> :	7,7—7,8;	5,7—6;	1,6;	2 cm.
<i>P. meridionalis</i> :	8,2;	6,5—6,7;	1,7;	2 cm.

Of this southern representative of *P. sulfureiventer* our Museum contains two probably adult, but unsexed specimens.

Leyden Museum, January 1893.

NOTE XXIII.

ON TWO NEW SPECIES OF THE GENUS STOPAROLA
FROM CELEBES

BY

J. BÜTTIKOFER.

Among the specimens of *Stoparola* in the Leyden Museum there are four from Celebes which prove to belong to two distinct and hitherto undescribed species.

1. *Stoparola septentrionalis*, n. sp.

This species might, with regard to its color, the best be compared with the Indian *St. melanops*, but the inner web of the tail-feathers is black from above instead of blue, and the size is much smaller.

General color above bluish green with more or less distinct verditer-blue edgings to the feathers on back and rump; quills black, all but the two outermost primaries distinctly edged with greenish blue on the basal half of the outer web, outer secondaries broadly edged with bluish green, inner entirely bluish green on the outer web, wing-coverts of the same color as the back; tail black above and below, with the outer webs of tail-feathers bluish green like the back, this color being predominant on both webs of the innermost pair, leaving only a shaft-streak pure black. A broad loreal streak, reaching in a narrow angle to the fore-head, pure black, fore-head and a narrow streak reaching over the eye verditer-green with a silvery gloss, sides of head dark bluish green, spotted with verditer, chin, throat, chest, breast and flanks with broad, silvery verditer-blue edgings, giving these parts a more

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or less scaly appearance, feathers on centre of breast broadly edged and tipped with white, abdomen, vent and under tail-coverts nearly pure white, especially in the specimen which is said to be a female; thighs black, feathers tipped with white near the heel; edge of wing verditer-blue, under wing-coverts pure white with some black shaft-streaks, inner web of quills edged with dingy white, bill and feet black. Wing 6,8 cm., tail 5, tarsus 1,6, culmen 1,2.

Hab. North Celebes.

This species is represented by two specimens. The first is a female, collected by von Rosenberg in 1864 at Tondano, N° 511 of his Catalogue, which contains the following remarks about this bird: »frequently seen in brushwood and low trees, living upon insects. Iris brown, bill black, feet blue”.

The second representative of this species is an unsexed specimen, collected by van Duyvenbode, 1866, in the District of Menado.

2. *Stoparola meridionalis*, n. sp.

Similar in color to its above described northern representative, but very much larger and stronger. Wing 8 cm., tail 6, tarsus 1,7, culmen 1,5.

Hab. South Celebes.

Two specimens (unsexed), collected by Teysmann in the District of Macassar, in 1878.

Leyden Museum, February 1893.

NOTE XXIV.

A NEW SPECIES OF THE RUTELID GENUS SPILOTA

DESCRIBED BY

C. RITSEMA Cz.

Spilota Keili, n. sp.

Calling in mind *Spilota irrorella* Casteln., but more robust and at once distinguished from that species by the different coloration (the head, pronotum, scutellum and pygidium being green with the clypeus, the lateral margins of the pronotum and two apical spots on the pygidium yellowish), and by the different sculpture of the elytra, these being regularly and deeply punctato-striate.

Length 18,5 mm.—Above: the head, pronotum, scutellum and pygidium green, the clypeus, the lateral margins of the pronotum and two apical spots on the pygidium yellow with a green tinge, the elytra ochreous, sprinkled with small brown dots which are more or less confluent especially in a transverse direction, thus forming on the sides short and narrow transverse bands; the abdominal segments show laterally, as far as they are not covered by the elytra, a triangular dark brown spot. Beneath: pale yellow with a metallic green tinge; the antennae pale brown, the apex of the anterior tibiae, the spines of the legs and the posterior tarsi dark coppery, the anterior and intermediate tarsi with a coppery tinge; the sterna, coxae and femora are covered with long colourless or pale yellow hairs.

The head is covered with very distinct punctures which are larger and closer together on the clypeus; the sides

of the clypeus are subparallel, the anterior margin is subtruncate with broadly rounded lateral angles.

The pronotum is regularly strongly convex, with a slight trace of an impressed medial line which disappears at some distance from the base; the punctures with which the pronotum is covered are very small along the middle but stronger and denser set towards the yellow margins on which latter they are again wider apart; a small but distinct roundish impression is present on the line of demarkation between the two colours on the broadest portion of the pronotum; the sides are narrowly margined, slightly concave on the basal half, the basal angles narrowly rounded and slightly divergent; the base, which is as broad as the base of the elytra, is bisinuate, the middle lobe broad and regularly rounded. The scutellum has a regular triangular shape with convex sides and is provided with a few fine punctures.

The elytra, which at the base are as broad as the base of the prothorax, are widest at about one third of their length and thence slightly narrowing towards the end in regularly curved lines; the disk is rather flat, the sides are faintly sloping. Each elytron has sixteen striae (the sixteenth marginal) with deep and closely set punctures, which striae are for the greater part equidistant; the 2nd and 3rd striae run together posteriorly, the 6th and 7th are somewhat closer together and likewise united at the end; the 10th and 11th are already united about the middle of their length, they diverge towards and are diffuse at the base; the 12th—15th striae originate beyond the shoulder which shows a few fine punctures; the 14th and 15th striae end at two-thirds of the length of the elytron and here the 13th stria approaches the 16th or marginal one which begins at the extreme base.

The pygidium is triangular, much broader than long, rather flat, faintly impressed along the middle and covered with transverse punctures or striae.

The mesosternal process is thick at the base and slightly

curved upwards at the end. The apical tooth of the anterior tibiae is spatulate, and the larger claw of the anterior and intermediate tarsi bifid, that of the posterior pair simple. The sides of the meso- and metasternum are densely punctured, the legs and abdomen very sparingly so.

Hab. East-Sumatra. — Found by Mr. K. E. Keil on Mount Tindjowan, in the woody country of Asahan, at an elevation of 700 Meters above the level of the sea. I have much pleasure in dedicating this beautiful insect to its captor, who presented the described specimen, together with many other interesting beetles, to the collections of the Leyden Museum.

Leyden Museum, February 1893.

NOTE XXV.

ON A NEW SPECIES OF THE GENUS GERYGONE
FROM BORNEO

BY

J. BÜTTIKOFER.

The Leyden Museum is in possession of a male and a female of a species of *Gerygone*, collected by Schwaner in Southern Borneo. These two specimens are identified by Finsch with *G. sulphurea* Wall., the typical and probably hitherto unique specimen of which species has been collected by Wallace on the Island of Solor, one of the small islands near the eastern end of Flores. As far as we may conclude from the geographical distribution of the other species of the genus, it is not very reasonable that two birds from these different localities would belong to one and the same species, and it is not without much reservation that Salvadori accepts this name in his work: *Uccelli di Borneo*¹⁾. A year later, in his *Uccelli di Celebes*²⁾, the learned author feels much inclined to consider our two birds to belong to a different, still undescribed species. — Sharpe, who had seen the two birds in 1878, without being able to compare them with the typical *G. flaveola*, united them with *G. flaveola* from Celebes, to which species they are certainly very closely allied.

A close examination of the birds, on the occasion of a recent review of the specimens of this genus in our Mu-

1) Ann. Mus. Civ. Genova, 1874, p. 246.

2) Ann. Mus. Civ. Genova, 1875, p. 665.

seum, convinced me that they really belong, as Salvadori already suggested, to a species different from both *G. sulphurea* and *flaveola*, and I am much pleased to name this new species, in honor of the learned Professor, who was the first to point to the probable specific difference of our specimens from Borneo,

Gerygone salvadorii.

Gerygone sulphurea Finsch, Neu-Guinea, p. 166 (1865); Salvad. (teste Finsch) Ucc. di Borneo, p. 246 (1874); id. Ucc. di Celebes, Ann. Mus. Civ. Genova, VII, p. 665, line 4 from bottom (1875).

Gerygone flaveola (part.) Sharpe, N. L. M. 1878, p. 29; id. Cat. Birds Br. Mus. IV, p. 214 (1879).

Adult male: General color above ashy brown with an olive tinge, crown like back, upper tail-coverts somewhat darker brown; tail-feathers pale earthy brown with a rather broad, subterminal bar of darker brown and a white spot near the end of the inner web of all the feathers except the innermost pair, this spot being very broad on the outermost pair and becoming gradually narrower on the inner; wing-coverts like the back, primary coverts and quills dark brown, the primaries narrowly edged with gray, the secondaries more broadly edged with ashy brown, sides of face and ear-coverts ashy brown; the whole under surface sulphur-yellow, under tail-coverts paler yellow, sides of breast very obviously olive-brown, as also the thighs; under wing-coverts white with a yellowish wash, edge of wing dirty white, inner edge of quills pale vinous, bill black, feet brown. Wing 5 cm.; tail 3,5; culmen 1,1; tarsus 1,6.

Adult female: Exactly similar in color and size with the male.

This new species differs from the closely allied Celebean *G. flaveola* in the (for the size of these birds very considerable: 5 mm. —) shorter wing, in having the sides of the breast olive-brown instead of yellow, in wanting the

whitish lores and the yellowish wash on the ear-coverts, in having the inner edge of the quills pale vinous instead of white and in having the under tail-coverts not pure white, in the upper surface being a shade darker ashy brown, and the subterminal white spot on the inner web of the tail-feathers, especially on the outermost, being much larger.

From the true *G. sulphurea*, which is not known to me *ex visu*, the Bornean species differs in having the sides of the breast olive-brown instead of plain yellow, in wanting the white loreal spot, in having the inner lining of the quills vinous instead of white, and in having the white subterminal spot on the outermost tail-feather confined to the inner web, while it is said to be found on the outer as well in *G. sulphurea* (teste Sharpe, Cat. Birds); moreover the wing in the Bornean species is longer.

Leyden Museum, February 13, 1893.

NOTE XXVI.

CHRYSOBOTHRIIS RUTILICUSPIS,
NOVA SPECIES BUPRESTIDARUM

BY

Dr. K. M. HELLER.

Ex affinitate *Ch. insolatae* Deyr. et *perplexae* Deyr. — ♀. *Caput* fronte impressa, circulatim striata, supra impressionem ignita, vertice viridi. *Thorax* viridis, lateribus late ignitus, transverse striolatus et sat dense interpunctatus, margine basali medio lobo apice truncato. *Scutellum* acute triangulare, coeruleum. *Elytra* sat dense punctata, subparallela, ultimo triente angustata, coeruleo-virescentia, utrinque macula ante medium, altera transversa in secundo triente pone marginem lateralem, sutura foveisque duabus basalibus pure virescentibus, ultimo triente, sutura excepta, ignito. *Corpus* infra viride, punctatum, episternis pro- et metathoracis et metasterno lateribus remote vermiculatis, abdomine lateribus nigro-coerulescenti, prosterno antice utrinque et coxis posticis aureis, episternis pro- et mesothoracis aeneis. *Pedes* virides, femoribus posticis tibiisque intermediis et posticis obscurioribus, tibiis anticis apice ignitis. — Long. tot. 10 mm., lat. ad hum. 4 mm.

Habitat in insula Celebes: Macassar (Dr. Platen).

Head metallic green, closely punctured, and with a roundish somewhat elliptical and transverse blackish bronze impression which is marked at the bottom with concentric ridges, the middle point of which is situated at the centre of the impression; forehead fire-red, vertex metallic green; clypeus with a deep angular emargination.

Thorax transverse, anterior margin straight, base deeply emarginate on each side, posterior angles acute, middle lobe truncate; the sides diverging rapidly for a quarter of their length, then nearly straight, behind the middle rounded and then slightly converging to the posterior angles; disk with somewhat close punctures and fine transverse ridges,

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bluish green, fire-red at the sides except at the anterior margin, the red colour extending over the thorax for about a quarter of its breadth on each side.

Elytra closely and equally punctured, $3\frac{1}{2}$ times the length of the middle line of the prothorax, sides subparallel for two-thirds of their length, posterior margin finely and remotely denticulate. Base of the elytra, as in *insolata* Deyr., with two impressions: one roundish near the suture, the other oblong and near the shoulders. Colour of elytra bluish green, the blue tint predominating on the posterior half; the suture, an ill-defined spot before the middle and a transverse one on the second third, nearer to the lateral margin, pure metallic green; the apex with a large oblong fire-red spot occupying nearly the whole last third not including the suture.

Beneath green, punctured except at the posterior margin of the abdominal segments, thinly haired; episterna of the pro- and metathorax, the sides of the metathorax and of the first abdominal segment with undulate ridges; prosternum on the anterior external margin and the posterior coxae pale coppery red; episterna of pro- and mesothorax bronzy. Sides of the abdomen blackish blue, some fine ridges along the outer margin of each segment; last segment at the apex deeply sinuate on each side (♀). Legs green, hind femora and the tibiae of the middle and hind legs darker, anterior tibiae fire-red at the apex.

This new species is closely related to *Ch. insolata* and *perplexa* Deyr. by the absence of the three small elytral impressions, by the broad, blunt tooth on the anterior femora, by the fire-red posterior angles of the prothorax, by the excavated front, by the eyes being approximate above, by the last segment of the abdomen being carinated along the middle and by the small antennal grooves.

The type-specimen (Mus. Dresden, N° H. 3386) was obtained in exchange from Mr. G. Hetzer of Dresden.

Royal Zool. Mus., Dresden, 23 February 1893.

NOTE XXVII.

ON TWO NEW SPECIES OF BIRDS FROM
SOUTH CELEBES

BY

J. BÜTTIKOFER.

Amongst the numerous birds, collected by the Dutch botanist Teysmann in the district of Macassar during the year 1878, the Leyden Museum is in possession of a specimen of the genus *Cinnyris*, which I am not able to identify with any known species and which I introduce here under the name of

Cinnyris Teysmanni.

Entire crown, sides of head, hind neck, mantle, back and rump, wing-coverts and outer edge of quills uniform earthy brown with a slight tinge of olive, upper tail-coverts purplish brown, tail-feathers purplish black, the outer webs narrowly edged with metallic green; chin and throat metallic purplish blue, flanked on both sides with a broad metallic green stripe, forming a moustachial streak which is produced down to the sides of the chest; the latter is separated from the breast by a narrow maroon-brown cross-bar which is somewhat paler than in *C. asiaticus*; breast, flanks, abdomen and under tail-coverts black with a purplish gloss, pectoral tufts bright yellow without any trace of orange-red, under wing-coverts and thighs dusky black; bill of the same size as in *C. asiaticus* and *C. zenobia*, but rather less strongly bent, black;

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feet black. Wing 5,3 cm.; tail 3,5; tarsus 1,5, bill from front 1,8.

This bird agrees, as to the color of the under-surface, very much with *C. asiaticus*, only is the maroon-brown bar across the chest somewhat paler, the abdomen and under tail-coverts are less strongly glossed with purple and the orange-red feathers in the pectoral tufts are wanting. But the bird cannot be an immature *C. asiaticus*, showing no marks of any metallic gloss on its upper-surface while the lower surface entirely presents the metallic plumage of the fully adult stage. In the transitional stages of *C. asiaticus* the upper-surface, which is much paler than in our Celebean bird, always shows strong marks of metallic blue, especially on rump and lesser wing-coverts, long before the lower-surface has assumed its full metallic plumage. This bird is rather to be placed in Captain Shelley's *Cyrtostomus* or olive-backed Asiatic group, in which the green-backed *C. zenobia* from the Moluccas would be its nearest ally.

The second species, also from the district of Macassar, belongs to the genus *Dicaeum*, and *D. Mackloti* Müll. may be considered to be its nearest ally. From this latter it differs, however, in its smaller size and in the upper-surface having a steel-blue instead of a well-pronounced purplish gloss.

I propose to name this species

Dicaeum splendidum.

Entire head, hind neck and sides of neck, mantle, back and wing-coverts steel-blue, the latter somewhat glossed with purplish, rump and upper tail-coverts scarlet, tail-feathers glossy steel-blue; chin white, throat and fore-neck scarlet, encircled by a dull black stripe which is beginning as a moustachial streak, running down along the sides of the neck and forming a rather broad black band across the chest, continued by a black stripe along

the centre of the breast. Breast, flanks, abdomen, thighs, under tail-coverts and under wing-coverts creamy white, edge of wing dull black; bill and feet black.

D. splendidum: Wing 5,2 cm.; tail 2,7; tarsus 1,8; culmen 0,9.

D. Mackloti: Wing 5,5 cm.; tail 3; tarsus 1,8; culmen 1.

Leyden Museum, March 1893.

NOTE XXVIII.

ON THE DATES OF PUBLICATION OF THE PARTS OF
SIR ANDREW SMITH'S ILLUSTRATIONS OF
THE ZOOLOGY OF SOUTH AFRICA

BY

Dr. F. A. JENTINK,

February 1893.

Under the above title there has been published a very valuable paper in the P. Z. S. L. 1880, p. 489, written by Mr. F. H. Waterhouse. The author remarked: »As the copy here alluded to, did not contain plates xviii and xxxviii (*Mammalia*), I have examined three or four other copies; and as neither of these plates are to be found in any of these, I presume they do not exist''.

I think it is not without interest to know, that in the copy belonging to our Museum-library, plate 38 is present; plates 18 and 37 however, are absent. On plate 38 there are two figures of *Catoblepas taurina*, A. adult female, B. young.

No wonder that the named plates are not to be found in any copy, as I read at the bottom of the page, containing an index of the *Mammalia*, the following phrase: »PLATES 18 AND 37 NOT PUBLISHED''.

NOTE XXIX.

COMPARATIVE LIST OF THE BIRDS OF HOLLAND
AND ENGLAND.

BY

F. E. BLAAUW.

Secretary Zool. Soc. of Amsterdam, C. M. Z. S., M. B. O. U.

In the following paper a list as possible complete is given of the birds of Holland and England, whilst a few lines are added to each species, to state when and where the birds occur in both countries.

It is worth of being noticed that, although Holland and England are so near each other, a great difference takes place in the habits of the same birds visiting both countries so that f. i. a number of birds being residents in England are only summer visitors in Holland.

Not less interesting is the fact that Holland, although so much smaller than the United Kingdom, is the *regular* abode at different seasons of 221 species of birds whilst the British Islands can only boast of 211 species (L. of Br. Birds, preface VI, 1883).

The *occasional visitors*, it is true, increase the *British* Avifauna with a considerable number of species, but as the *regular* visitors and residents form the real Avifauna of a country, the fact remains that Holland is the richer of the two.

Birds only occurring in England and not met with in Holland are simply mentioned and the names placed in

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brackets. A single asterisk behind the name means that the bird is a summer visitant, a double one that it is a resident.

Holland means the whole Kingdom of the Netherlands unless North or South being added to it, when it becomes the name of a province.

The classification used, is the same as the one used in the List of British birds by the Br. Orn. Union so that no synonymy is given.

This paper is divided in three parts:

Part **a** gives a short account of the principal publications on the birds of Holland, which have more or less been used for the present work.

Part **b** gives the comparative list itself with notes as to habits etc.

Part **c** contains two tables: one with the Dutch birds divided in Residents, Summer visitors and Occasional visitors, and another with the English birds as they occur in the list of the Br. Orn. Union with the addition of 10 species, by which that list is increased since 1883.

For English birds the list of the Br. Orn. Union is my chief authority, whilst the Proceedings of the Zool. Society and the Ibis etc. have been consulted for occurrences of birds posterior to 1883.

In this way 10 new species have been added to that list viz:

<i>Saxicola isabellina</i> Rüpp.	(Nature, Jan. 1888).
<i>Emberiza cioides</i> Brandt	(P.Z.S. 1889, p. 6).
<i>Tinnunculus sparverius</i> Linn.	(P.Z.S. 1884, p. 45).
<i>Anser minutus</i> Linn.	(P.Z.S. 1886, p. 420).
<i>Larus melanocephalus</i> Natt.	(P.Z.S. 1887, p. 2).
<i>Aegialitis asiatica</i> Pall.	(P.Z.S. 1890, p. 461).
<i>Pelagodroma marina</i> Reichenbach	(Ibis, 1891, p. 602).
<i>Oestrelata torquata</i> Macg.	(P.Z.S. 1891, p. 122).
<i>Anthus cervinus</i> Pall.	(P.Z.S. 1884, p. 206).
<i>Larus philadelphia</i> Gray	(P.Z.S. 1884, p. 150).

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I am indebted to Dr. Jentink for making accessible to me the extensive collections of the Leyden Museum to which of late the coll. van Wickevoort Crommelin has been added; to Mr. A. A. van Bemmelen for doing the same with the collection of the Zool. Gardens at Rotterdam and to Mr. Howard Saunders for looking over the British birds in this paper and making some personal remarks which are recognizable by the initials H.S. put in brackets.

Part a.

The publications on Dutch birds began about the year 1752 when a latin paper more or less in the form of a catalogue was published by P. H. G. Moehring.

This work was translated into Dutch and completed by A. Vosmaer who published it in the years 1764 and 1765. These two publications were nothing more than catalogues and very incomplete. The great book of Nozeman and Sepp published in 5 parts in the years 1770, 1789, 1812, 1826 and 1829, with 250 coloured plates in large folio must be regarded as the standard work on Dutch Ornithology. This work not only gave a very accurate list of the birds up to that time observed in the Netherlands, but also a very good description of the birds themselves and their habits.

In 1815 C. J. Temminck published the first part of his *Manuel d'Ornithologie* in which, besides remarks on the avifauna of Europe in general, much was published that was new on the Dutch species.

In 1828 H. Schlegel followed with a paper on the migration of Dutch birds, in answer to a question put by the Dutch Society of Sciences.

Then come a few publications of less importance whereafter, in 1852, prof. H. Schlegel published his list of birds observed in Holland in a wild state ¹).

1) Naamlijst der tot heden (April 1842) in de Nederlanden in den wilden staat waargenomen vogels (Bouwstoffen voor eene Fauna van Nederland, bijeen-verzameld door J. A. Herklots).

This list was followed in 1858 by his well known work on Dutch birds, »De Vogels van Nederland''¹⁾ with 362 coloured plates and which is certainly the best work ever published on that subject, although since that time much has been altered in our avifauna and several species have been added to his list.

In 1860 appeared another book from the hand of Schlegel on the birds of the Netherland, making part of a great work on the Dutch fauna under the general title: »De Dieren van Nederland'', published by A. C. Kru-
seman at Haarlem. The ornithological part of this work contains, besides the 263 pages of letterpress, 18 beautiful and most interesting plates representing different landscapes with miniature bird-drawings and 35 plates with the heads of all the species treated in the letterpress. — A second edition of this volume was published in 1878 at the office of Funke, Amsterdam.

Since that time several publications on that subject have appeared but they were with one exception (H. Koller, naamlijst van in Nederland in den vrijen natuurstaat waargenomen vogels)²⁾ — papers on local observations. Among them the most serious are the observations published by J. P. van Wickevoort Crommelin in

- a. Nederl. Tijdschrift voor Dierkunde, III, 1866, pp. 242—248.
- b. Archives Neerlandaises, II, 1867, pp. 66—68. Notes Ornithologiques.
- c. Idem IV, 1869, pp. 231—238. Idem sur la faune des Pays-Bas.
- d. Idem IV, pp. 379—398. Remarques sur la faune de la Hollande.
- e. Idem X, 1875, pp. 166—180.

1) De Vogels van Nederland beschreven en afgebeeld door H. Schlegel. Met 362 gekleurde platen. Leyden, D. Noothoven van Goor, 1858.

2) Bijdragen tot de Dierkunde, 1888.

- f. Tijdschrift v. Dierkunde, V, 1880, pp. 32—37.
- g. Nederl. Tijdschrift v. Dierkunde, I, 1863. Notice sur les canards observés en Hollande.
- h. Idem II, 1865, pp. 294—297. Bastaarden van *Anas boschas* en *A. crecca* en *Anas crecca* en *A. penelope*.
- i. Idem III, 1866, pp. 309—312. Description d'un canard Hybride, *Anas boschas* et *Anas acuta*.
- k. Archives Neerlandaises, II, 1867, pp. 447—452. Contributions à l'hybridologie ornithologique. *Cygnus olor*, *Anser cinereus domesticus* etc.
- l. Idem VII, 1872, pp. 130—139. Notes sur quelques canards observés en Hollande.
- m. Idem VIII, 1873, pp. 297—322. Notes sur les rales des Pays-Bas.
- n. Nederl. Tijdschrift voor Dierkunde, I, 1863, pp. 219—227. Observations sur *Syrnhaptes paradoxus*.

The very extensive collection of stuffed Dutch birds collected by this gentleman were given after his death in 1891 to the Leyden Museum as he had expressly desired.

Those of A. A. van Bemmelen published in the *Bouwstoffen*, II, p. 2, 1856, bl. 119—130. On birds observed on the island Rottum. Idem in *Jaarboek van Natura Artis Magistra*, 1856, bl. 131—141. Birds observed on the coast of the North Sea.

For birds occurring in the North, especially in Friesland ¹⁾, the publications of H. Albarda are of great interest, who also has given at irregular intervals in the *Tijdschrift der Dierkundige Vereeniging*, accounts of rare birds observed in the Netherlands at different periods ²⁾.

Besides the mentioned publications some others of less importance appeared chiefly treating local questions — and amongst them I must not forget two interesting papers

1) H. Albarda. Naamlijst der in de provincie Friesland in wilden staat waargenomen vogels. *Bouwst.* III, stuk 4, 1866, pp. 298—333.

2) See also *Journal für Ornithologie*, XXXX Jahrgang, Heft IV, pp. 417 et 895, October 1892. Ueber das Vorkommen seltener Vögel in den Niederlanden, von Herman Albarda.

published in the »Bouwstoffen voor eene Fauna van Nederland'' part 3, p. 120 and in het Tijdschrift van de Dierkundige Vereeniging, serie 2, part 2, p. 158, by G. M. and H. W. de Graaf on the twice occurred capture of *Phylloscopus superciliosus* and of *Muscicapa parva*.

Part b.

Order PASSERES.

Genus Turdus.

Turdus viscivorus Linnaeus.

A regular winter visitor in Holland. According to prof. Schlegel this bird has only been found breeding on rare occasions in the province of Groningen. I myself found it breeding near Velzen (prov. Noord Holland) in the years 1881 and 1882. In other parts I believe it has only occurred on migration.

A common resident in England and Wales, rare in Scotland and Ireland.

Turdus musicus Linnaeus.

A common resident in Holland as it is in Br. Isl.

Turdus iliacus Linnaeus.

A common winter visitant in Holland and the British Islands. In Holland it has occasionally *bred* (Schleg. V. v. Ned. p. 213), in Groningen and Noord Holland.

The Zool. Society of Amsterdam recieved twice a pale buff variety of this bird.

Turdus pilaris Linnaeus.

A common winter visitor in Holland and the Br. Isl. Has been *known to breed* in Groningen (Schlegel, Vog. v. Ned. p. 210).

(*Turdus atrigularis*) Temminck.

(*Turdus varius*) Pallas.

Turdus pallens Pallas.

Notes from the Leyden Museum, Vol. XV.

A rare visitor to Holland. Has been once obtained near Velzen in Noord Holland. (Bouwstoffen, Dl. I, p. 71. Coll. v. Wickevoort Crommelin).

A second specimen was caught in the autumn of 1892 (Herman Albarda, Journal für Ornithologie, Heft, IV, October 1892, pag. 421).

Turdus sibiricus Pallas.

A rare visitor to Holland; one was caught at Noordwyk on the first of October 1856 (G. M. de Graaf, Bouwstoffen, Dl. II, p. 210 and Schleg. Vog. v. Ned. p. 214, 1860).

Turdus ruficollis Pall.

A rare visitor to Holland, has been once caught near Utrecht (Bouwstoffen, Dl. III, p. 521).

Turdus merula Linnaeus.

A common resident in Holland and the Br. Isl.

Turdus torquatus Linnaeus.

A regular winter visitor to Holland, has been known to breed in the prov. of Noord Holland, so f. i. in 's Graveland. A summer visitor to the Br. Isl.

Genus Monticola.

(*Monticola saxatilis*) (Linn.).

Genus Saxicola.

Saxicola oenanthe (Linn.).

A regular summer migrant to Holland and the Br. Isl.

Saxicola stapazina (Vieill.).

A rare straggler to Holland where it has probably bred, as a pair was observed in summer near Haarlem. (Schleg. Vog. v. Ned. p. 169). Of very rare occurrence in the Br. Isl.

(*Saxicola deserti*) Temm.

(*Saxicola isabellina*) Temm.

Genus **Pratincola.**

Pratincola rubetra (Linn.).

A regular summer visitor to Holland and the Br. Isl.

Pratincola rubicola (Linn.).

A regular summer visitor to Holland, which has but very rarely been found there in winter. A resident throughout the greater part of the Br. Islands.

Genus **Ruticilla.**

Ruticilla phoenicurus (Linn.).

A regular summer visitor to Holland and Gr. Britain, rarer in Ireland.

Ruticilla titys (Scop.).

Breeds in Holland in the provinces Gelderland, Utrecht, Groningen and Noord Brabant in small numbers. An occasional visitor elsewhere. A winter visitor to the South West of Gr. Britain.

Genus **Cyanecula.**

Cyanecula Wolffi (Brehm).

A summer visitor to Holland, where it breeds; of rare occurrence on migration in Gr. Britain.

Cyanecula suecica (Linn.).

A scarce summer visitor to Holland, where it *breeds* like the preceeding in marshy places. A rare visitor to England.

Genus **Erithacus.**

Erithacus rubecula (Linn.).

A common resident in Holland and the Br. Isl.

Genus **Daulias.**

*Daulias luscini*a (Linn.).

A regular summer visitor to Holland, being more numerous in the middle and southern provinces.

In England it breeds south of Yorkshire and east of Devonshire.

Genus Sylvia.

Sylvia cinerea (Linn.).

A common summer visitor to Holland and the British Islands.

Sylvia curruca (Linn.).

A common summer visitor to Holland and Gr. Britain.

(*Sylvia orphia*) Temm.

Sylvia atricapilla (Linn.).

In Holland a common summer visitor in the higher eastern provinces; on migration or irregularly breeding in the western provinces.

A common summer migrant to England and Wales, rare to Ireland and Scotland.

Sylvia hortensis Bechstein.

One of Holland's most common summer visitors, also common in Gr. Britain and Ireland.

Sylvia nisoria (Bech.).

Has been twice obtained in Holland, in Groningen (18th May 1860 and 15th April 1861, Museum of Leyden, Bouwstoffen, Dl. III, p. 520). Of very rare occurrence in England.

Genus Melizophilus.

(*Melizophilus undatus*) ** (Bodd.).

Genus Regulus.

Regulus cristatus (Linn.).

A common resident in Holland and the Br. Isl.

Regulus ignicapillus (Temm.).

A common winter migrant to some parts of Holland, so f. i. to the provinces Noord Holland and Utrecht. An accidental visitor to England.

Genus **Phylloscopus.***Phylloscopus superciliosus* (Gmel.).

An accidental visitor to Holland and England. Caught in the town of Leiden 15 Sept. 1861: Coll. G. M. and H. W. de Graaf (H. W. de Graaf, Bouwst. part III, p. 520) and on 12 April 1878 near the Hague: Coll. G. M. and H. W. de Graaf.

Phylloscopus rufus (Bech.).

A common summer visitor to Holland and the Br. Isl.

Phylloscopus trochilus (Linn.).

A common summer visitor to Holland and the Br. Isl.

Phylloscopus sibilatrix (Bech.).

A common summer visitor to Holland and the Br. Isl.

Genus **Hypolaïs.***Hypolaïs icterina* (Vieill.).

A common summer visitant to Holland, breeding freely even in small gardens.

An accidental visitor in the Br. Isl.

Genus **Aedon.***(Aedon galactodes)* (Temm.).*Genus* **Acrocephalus.***Acrocephalus streperus* (Vieill.).

A common summer visitor to Holland, breeding in most places where reed grows. A summer visitor to the Br. Isl.

Acrocephalus palustris (Bech.).

In Holland a regular summer visitor, breeding along the water-sides.

A rare summer visitor in England in the southern counties.

Acrocephalus turdoides (Meyer).

A common summer visitor to Holland, breeding often in large numbers in suitable localities, so f. i. in the prov.

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Noord Holland. The wonderfull nest is easy to find the bird singing loudly perched on the top of a reed close by it.

In England this bird is an accidental visitor.

Acrocephalus aquaticus (Gmel.).

An occasional visitor to Holland; was caught in two specimens in September 1887 at IJmuiden (Zool. Soc. Museum of Amsterdam).

Of rare occurrence in England.

Acrocephalus phragmitis (Bech.).

A common summer visitor to Holland and Gr. Britain.

Genus Locustella.

Locustella naevia (Boddaert).

A summer visitor to the sea-coast of Holland; also common in the Br. Isl.

Locustella luscinioides (Savi).

Has been rarely found breeding along the large rivers of Holland.

A rare summer visitor to England.

Genus Accentor.

Accentor modularis (Linn.).

A common resident in Holland and the Br. Isl.

(*Accentor collaris*) (Scopoli).

Genus Cinclus.

Cinclus aquaticus Bech.

A rare accidental visitor to Holland; resident on the mountain-streams of the Br. Isl.

(*Cinclus melanogaster*) C. L. Brehm.

Genus Panurus.

Panurus biarmicus (Linn.).

A common summer visitor in Holland, in the provinces Zuid Holland, Noord Holland and Friesland. Leaving in autumn as a rule.

As a nest was found with young birds as late as September in the Naarder-meer, it is probable these birds breed twice in the same season. Resident in Norfolk and Cambridgeshire.

Genus Acredula.

Acredula caudata (Linn.).

A common resident in Holland, accidentally found in Gr. Britain on the east-coast.

(*Acredula rosea*) ** (Blyth).

A common resident in England, which I think highly probable never leaves the Br. Islands. In Holland longtailed tits with white heads and birds with striped heads constantly mix and breed together, which last thing they would probably not do if they belonged to different species. I am therefore inclined to think that so-called specimens of *Acredula rosea* of the continent are simply not quite mature specimens (as far as the colouring of the feathers goes) of *Acredula caudata*.

Genus Parus.

Parus major Linn.

A common resident in Holland and the Br. Isl.

Parus ater Linn.

A common winter visitant in Holland occurring in small numbers, generally two or three, mixed with the more numerous troops of *Parus major*. It has bred now and then in Gelderland, Noord Brabant and Noord Holland. In England, if the specific distinction of *Parus britannicus* holds good, it is a rare visitor.

(*Parus britannicus*) ** Sharpe and Dresser.

Parus palustris Linn.

A common resident in Holland and the Br. Isl.

Parus coeruleus Linn.

A common and numerous resident in Holland and the Br. Isl.

Parus cristatus Linn.

Occurs in Holland in winter in small numbers, generally in company of other tits.

It breeds, but not commonly in the provinces Noord Brabant and Gelderland, Groningen and probably also in Noord Holland, as I have observed it there in pairs as late as the month of May.

In the Br. Islands it has only been found breeding in Scotland, being a rare visitor elsewhere.

*Genus Sitta.**Sitta caesia* Wolf.

A common resident in Holland in all wooded districts.

In England and Wales it is a resident, in Scotland it is rare, in Ireland it is quite wanting.

*Genus Troglodytes.**Troglodytes parvulus* Koch.

A common resident in Holland where its merry little voice is heard all the year round in suitable localities. Common in the Br. Islands.

*Genus Motacilla.**Motacilla alba* Linn.

A common summer visitor to Holland, generally coming in April and leaving in September. Has exceptionnally remained all the winter over.

A rare straggler to the south of England and Ireland.

Motacilla lugubris Temm.

A rare visitor to Holland, appearing generally in spring to stay a few days only. Has once bred in the prov. of Zuid Holland (Tijdschrift v. Dierkunde, Dl. III, bl. 245). A common resident in the Br. Islands, partially migratory.

Motacilla melanope Pall.

An irregular winter visitant to Holland; being often

found however in rather large numbers when it does make its appearance.

The neighbourhood of the Hague seems to be one of its favourite resorts on those occasions.

A resident in different places of the British Islands.

Motacilla flava Linn.

A common summer visitor to Holland, breeding in large numbers in the low marshy districts.

An occasional visitor to the Br. Isl.

Motacilla Raii (Bonaparte).

A rare straggler on passage in spring in Holland.

A common summer visitor to the British Islands; not so numerous in Ireland.

Motacilla nigricapilla (Bonaparte).

A rare visitor to Holland (Coll. v. Wickevoort Crommelin).

Genus Anthus.

Anthus pratensis (Linn.).

A regular summer visitor to Holland, coming in March and leaving in November.

A resident in the Br. Isl.

Anthus trivialis (Linn.).

A common summer visitor to Holland and the Br. Isl.

Anthus campestris (Linn.).

A common summer visitor in Holland, breeding chiefly in the dunes along the sea-coast.

An occasional straggler to the south coast of England.

Anthus Richardi Vieill.

An occasional autumnal straggler to Holland and the British Islands.

(*Anthus spipoletta*) (Linn.).

(*Anthus cervinus*) Pall.

Anthus obscurus (Lath.).

A common resident in the Br. Islands on the rocky coasts. An occasional visitor in spring and autumn in Holland.

Genus Oriolus.

Oriolus galbula Linn.

A common summer visitor to Holland, breeding even in the gardens of large towns if high trees are to be found there; so I observed a pair a few years ago breeding in a square of gardens in the very midst of Amsterdam.

A rare straggler on migration to England, having occasionally nested in the south.

Genus Lanius.

Lanius excubitor Linn.

Breeds in Holland in the eastern provinces. A rare straggler in autumn to the British Islands.

(*Lanius major*) Pall.

Lanius minor Gmelin.

A specimen was shot by Mr. Criellaert in his garden at Rotterdam in the autumn of 1859 or 1860. It was a male in summer plumage which is preserved in the Museum of the Zool. Garden of Rotterdam (A. A. van Bemmelen, Tijdschrift Ned. Dierk. Ver. dl. III, p. 197, 2^e serie). A rare visitor in the Br. Isl.

Lanius collurio Linn.

A summer visitor to Holland and the Br. Islands.

Lanius pomeranus Sparrmann.

Breeds in small numbers in Holland in the provinces Gelderland and Noord Brabant. An accidental visitor on migration to the Br. Isl.

Genus Ampelis.

Ampelis garrulus Linn.

An irregular winter visitor to Holland and the Br. Isl.

*Genus Muscicapa.**Muscicapa grisola* Linn.

A common summer visitor to Holland and the Br. Islands.

Muscicapa atricapilla Linn.

Generally only a visitor on migration to Holland in spring and autumn; exceptionnally staying to breed.

A local summer visitant to Gr. Britain, unknown in Wales.

Muscicapa collaris Bechst.

In Holland a rare visitor on migration in spring. Has been observed to breed a few times (Bouwstoffen, Dl. I, bl. 66).

Has not been stated with certainty in England.

Muscicapa parva Bechst.

A rare straggler to Holland (G. M. de Graaf, Tijdschrift v. de Dierkundige Vereeniging, Serie 2, part 2, p. 158; Coll. G. M. and H. W. de Graaf).

A rare straggler to the Br. Isl.

*Genus Hirundo.**Hirundo rustica* Linn.

A common summer visitant to Holland and the Br. Isl.

*Genus Chelidon.**Chelidon urbica* (Linn.).

A common summer visitant to Holland and the Br. Isl.

*Genus Cotile.**Cotile riparia* (Linn.).

A common summer visitor to Holland an the Br. Islands.

*Genus Certhia.**Certhia familiaris* Linn.

A common resident in Holland and the Br. Isl.

*Genus Carduelis.**Carduelis elegans* Stephens.

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A summer visitor, breeding in small numbers in the eastern provinces; generally leaving in autumn but sometimes remaining throughout the winter.

A resident in the Br. Islands.

Genus Chrysomitris.

Chrysomitris spinus (Linn.).

A numerous winter visitor to Holland. Has been observed to breed on different occasions in the pinewoods of Gelderland and Noord Brabant. It sometimes happens that large numbers of young birds come on migration to Holland in the month of July, so f. i. in July 1891.

Breeds in Scotland being elsewhere a winter visitant.

Genus Serinus.

Serinus hortulanus Koch.

This bird seems to have a tendency of extending its habitat to the North. Was formerly of very rare occurrence in Holland but is now captured in autumn almost every year. A rare visitor to England.

Genus Ligurinus.

Ligurinus chloris (Linn.).

A common summer visitant to Holland; generally, but not always, leaving in autumn.

A resident in most parts of the Br. Isl.

Genus Coccothraustes.

Coccothraustes vulgaris Pallas.

Breeds in Holland in small numbers in the woods of Noord Holland, Gelderland, Utrecht and Noord Brabant. On migration elsewhere. Breeds in different parts of the Br. Islands.

Genus Passer.

Passer domesticus (Linn.).

A common resident in Holland and the Br. Islands.

Passer montanus (Linn.).

A common resident in Holland and most parts of the Br. Islands.

Passer petronia (Linn.).

Has twice occurred in Holland according to Prof. Schlegel (Schl., V. v. Ned., p. 327). Bought in 1866, coll. v. Lidth de Jeude, Leyden Museum.

*Genus Fringilla.**Fringilla caelebs* Linn.

A common resident in Holland and the Br. Islands.

Fringilla montifringilla Linn.

A common winter visitor to Holland and the Br. Islands. Has once bred in Perthshire (L. Br. B. p. 52).

*Genus Linota.**Linota cannabina* (Linn.).

A common summer visitor to the dunes and heathery districts of Holland. Generally leaving in autumn.

A resident in the Br. Isl. as a rule.

Linota linaria (Linn.).

A common winter visitor to Holland. Of irregular occurrence in winter in the Br. Islands.

Linota rufescens (Vieill.).

A winter visitor to Holland, a resident in Scotland and the North of England, a winter visitor elsewhere.

(Linota Hornemanni) Holböll.*Linota flavirostris* (Linn.).

A winter visitant to Holland, a resident in some parts of Gr. Britain.

Linota Holböllii (Brehm).

If this is a good species it also occurs in Holland on migration.

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Genus **Carpodacus.**

Carpodacus erythrinus (Pallas).

Has twice occurred in Holland in the years 1860 and 1864 (Nederl. Tijdschrift voor Dierkunde, Dl. III, p. 246) and is a rare visitor to England (L. of Br. B. p. 55).

Genus **Pyrrhula.**

Pyrrhula europaea Vieill.

A winter visitant to Holland, breeding in small numbers in the provinces Gelderland and Noord Brabant. Resident in the Br. Isl.

Genus **Pinicola.**

Pinicola enucleator (Linn.).

Has once been obtained in Drenthe during the winter of 1890/91 (Zool. Museum of the University at Groningen).

Of very rare occurrence in the Br. Islands.

Genus **Loxia.**

Loxia pityopsittacus Bechst.

A rare irregular visitor to Holland and Gr. Britain.

Loxia curvirostra Linn.

An irregular visitor to Holland, regularly breeding in the Br. Islands (H. S.).

(*Loxia leucoptera*) Gmelin.

Loxia bifasciata (C. L. Brehm).

Has occurred a few times in Holland and the Br. Islands.

Genus **Emberiza.**

(*Emberiza melanocephala*) Scop.

Emberiza miliaria Linn.

Breeds in small numbers in Holland in the North, in Gelderland and Noord Brabant, on migration elsewhere.

Resident or locally migrant in cultivated districts of the Br. Islands.

Emberiza citrinella Linn.

Resident in Holland and the Br. Isl.

Emberiza cirrus Linn.

A rare straggler to Holland, a local resident in the South of England.

Emberiza hortulana Linn.

A regular visitor on migration in spring, breeding in Holland in small numbers in the provinces Gelderland and Noord Brabant, a rare straggler to Gr. Britain.

Emberiza cia Linn.

Has once occurred in Holland in the year 1876, being captured near Nijmegen (H. Koller, Naaml. Nederl. Vogels, bl. 37).

Has not been observed in the Br. Isl.

(*Emberiza cioides*) Brandt.

Emberiza rustica Pallas.

One bird was caught at Harderwijk, 24th of October 1888 (Zool. Society's Museum at Amsterdam). Of rare occurrence in England.

Emberiza aureola Pallas.

Has occurred in Holland near Harderwijk (Gelderland) on the 14th of October 1890, when it was taken (Zool. Soc. Mus. at Amsterdam).

Emberiza pusilla Pallas.

Has occurred a few times in Holland, an accidental visitor to the Br. Isl. (Zool. Mus. Leyden and Zool. Society's Mus. at Amsterdam).

Emberiza schoeniclus Linn.

Breeds in suitable localities all over Holland, generally leaving in autumn. Resident in the Br. Isl.

Genus Calcarius.

Calcarius lapponicus (Linn.).

On migration in small numbers in autumn and winter in Holland, a rare autumnal visitor in the Br. Islands.

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Genus **Plectrophanus.**

Plectrophanus nivalis (Linn.).

A regular winter visitant to Holland. A male in full colour was caught in the end of July 1891 near Harderwijk (Gelderland). Breeds in Scotland and is elsewhere a winter visitor to the Br. Islands.

Genus **Sturnus.**

Sturnus vulgaris Linn.

A common summer visitant to Holland, remaining sometimes in small numbers all through the winter, a resident locally migrant in the Br. Isl.

Genus **Pastor.**

Pastor roseus (Linn.).

A rare straggler to Holland, generally observed in autumn in young specimens. An irregular autumnal visitor to the Br. Islands.

Genus **Pyrhcorax.**

(*Pyrhcorax graculus*) ** (Linn.).

Genus **Nucifraga.**

Nucifraga caryocatactes (Linn.).

A very irregular autumnal visitor to Holland, sometimes however appearing in large numbers, so f. i. in the autumn of the year 1885. In 1886 some birds were also seen but they were not so numerous. Of rare occurrence in the British Islands.

Genus **Garrulus.**

Garrulus glandarius (Linn.).

A common resident in Holland. In autumn large numbers of wanderers join these residents for a couple of months, disappearing afterwards. A resident in England in the southern parts.

Genus Pica.

Pica rustica (Scopoli).

A common resident in Holland and the Br. Islands.

Genus Corvus.

Corvus monedula Linn.

A common resident in Holland and the Br. Islands.

Corvus corone Linn.

A common resident in Holland, England and Wales, rarer in Scotland and Ireland.

Corvus cornix Linn.

A common winter visitant to Holland. Has once been observed to breed in Friesland (Koller, Nederl. Vogels, p. 33). Breeds in Scotland and Ireland, a winter visitor elsewhere.

Corvus frugilegus Linn.

A common resident in Holland and the Br. Islands.

Corvus corax Linn.

Resident in small numbers in Holland, but only in such places where large old trees are to be found. Resident in the Br. Isl. in suitable places.

Genus Alauda.

Alauda arvensis Linn.

A common summer visitant to Holland, leaving in autumn. Resident in the Br. Isl.

Alauda arborea Linn.

A spring migrant to Holland, breeding in small numbers in the province Gelderland.

A resident in England in the South and West, a winter visitor to Ireland, rare in the East and North.

Alauda cristata Linn.

Resident in Holland breeding in the dunes and heather districts. A rare straggler to the south of England.

*Genus Calandrella.**(Calandrella brachydactyla)* (Leisler).*Genus Melanocorypha.**(Melanocorypha siberica)* (Gmel.).*Genus Otocorys.**Otocorys alpestris* (Linn.).

A regular winter visitor to Holland; of irregular occurrence in winter in Gr. Britain.

Order PICARIAE.*Genus Cypselus.**Cypselus apus* (Linn.).

A common summer visitant to Holland and the Br. Isl.

(Cypselus melba) (Linn.).*Genus Acanthyllis.**(Acanthyllis caudacuta)* (Latham).*Genus Caprimulgus.**Caprimulgus europaeus* Linn.

A regular summer visitor to Holland and the Br. Isl.

(Caprimulgus ruficollis) Temm.*Genus Picus.**Picus martius* Linn.

Has occurred a few times in Holland near the german frontier.

*Genus Dendrocopus.**Dendrocopus major* (Linn.).

A resident in Holland in the wooded districts, being more numerous in autumn when many migrants are often passing through.

A resident in England and Scotland, a rare straggler to Ireland.

Dendrocopus medius (Linn.).

Breeds in small numbers in Holland in the provinces Noord Brabant and Gelderland; a rare straggler elsewhere.

Has not been observed in the Br. Isl.

Dendrocopus minor (Linn.).

A rare resident breeding in Gelderland, N. Brabant and N. Holland.

On migration elsewhere.

A resident in England.

Genus Gecinus.

Gecinus viridis (Linn.).

A common resident in Holland and England, rare in Scotland and Ireland.

Gecinus canus (Gmel.).

A rare visitor to the south eastern provinces of Holland (Bouwstoffen, part I, p. 75). Has not occurred in the Br. Isl.

Genus Iynx.

Iynx torquilla Linn.

Breeds in small numbers in different parts of Holland, leaving in autumn. Occurs in small numbers in England during the summer, rarer in Scotland and Ireland.

Genus Alcedo.

Alcedo ispida Linn.

Generally distributed through Holland and the Br. Isl.

Genus Ceryle.

(*Ceryle alcyon*) (Linn.).

Genus Coracias.

Coracias garrula Linn.

A rare straggler to Holland and the Br. Isl.

Genus Merops.

(*Merops apiaster*) Linn.

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Genus **Upupa.***Upupa epops* Linn.

Breeds in Holland in small numbers, more common on migration in spring and autumn.

An irregular visitor to the Br. Isl. on migration, having bred a few times.

Genus **Cuculus.***Cuculus canorus* Linn.

A common summer visitor to Holland and the Br. Isl.

Genus **Coccytes.***(Coccytes glandarius)* (Linn.).*Genus* **Coccyzus.***(Coccyzus americanus)* (Linn.).*(Coccyzus erythrophthalmus)* (Wilson).**Order STRIGES.***Genus* **Strix.***Strix flammea* Linn.

A common resident in Holland and the British Islands.

Genus **Asio.***Asio otus* (Linn.).

Resident and breeding in most dutch provinces. In autumn congregating often in large flocks sometimes together with *Asio brachyotus*. Resident in the Br. Islands.

Asio brachyotus (Forster).

Breeds in small numbers in Holland in marshy districts, being more common in autumn and winter. The same thing occurs in the British Islands.

Genus **Syrnium.***Syrnium aluco* (Linn.).

Resident in Holland and the British Islands.

*Genus Nyctea.**Nyctea scandiaca* (Linn.).

An occasional winter visitant in Holland and the Br. Isl.

*Genus Surnia.**(Surnia ulula)* (Linn.).*(Surnia funerea)* (Linn.).*Genus Nyctala.**(Nyctala Tengmalmi)* (Gmelin).*Genus Scops.**Scops gui* Newton.

Has been observed for the first time with certainty in Holland in the autumn of 1890, when one was shot near Rotterdam (Zool. Gardens Museum of Rotterdam). An occasional visitor to the Br. Isl.

*Genus Bubo.**(Bubo ignavus)* Newton.*Genus Athene.**Athene noctua* (Scopoli.).

A common resident all over Holland.

A rare straggler to England.

Order ACCIPITRES.*Genus Gyps.**Gyps fulvus* (Gmel.).

Has once been obtained near Amersfoort (Utrecht), about the year 1830 (Sepp, Vogels v. Nederland, Dl. V, bl. 395), and probably also only once in Ireland.

*Génus Neophron.**(Neophron percnopterus)* (Linn.).

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*Genus Circus.**Circus aeruginosus* (Linn.).

Breeds in small numbers in Holland in marshy places, leaving in autumn as a rule.

Breeds in very small numbers in the Br. Isl.

Circus macrourus (Gmel.).

Has once occurred in Holland in 1866 (v. Wickevoort Crommelin, Archives Néerlandaises, part II, p. 71).

Circus cyaneus (Linn.).

A rare summer visitant to Holland, a rare resident in Gr. Br.

Circus cineraceus (Montagu).

Breeds in Holland in small numbers in N. Brabant, Friesland, N. and S. Holland, leaving in autumn. A scarce visitor on migration in England, Scotland and Ireland.

*Genus Circaëtus.**Circaëtus gallicus* Vieill.

Has thrice occurred in Holland, one was shot in 1848 near Rotterdam (Zool. Gardens Museum of Rotterdam).

*Genus Buteo.**Buteo vulgaris* Leach.

Breeds in Holland in most of the wooded districts. Has of late greatly diminished in number in the British Islands.

*Genus Archibuteo.**Archibuteo lagopus* Gmelin.

A regular winter visitor to Holland. An irregular but almost annual straggler to England (H. S.).

*Genus Aquila.**(Aquila clanga)* Pall.

A rare straggler to the Br. Isl.

Was believed to have been obtained in Holland (Tijd-

schrift der Ned. Dierk. Vereeniging, deel IV, p. 70), but since, at the instigation of Mr. Herman Albarda, the specimens previously referred to *Aquila clanga* have been reexamined and found to be without exception specimens of *Aquila naevia* (Journal für Ornithologie, Heft IV, Oct. 1892, p. 417).

Aquila naevia Meyer et Wolf.

A rare visitor to Holland.

Aquila chrysaëtus (Linn.).

A very rare visitor to Holland. A resident in the mountains of Scotland and Ireland, occurring accidentally in England.

Aquila imperialis Bechstein.

Has once occurred in Holland in 1856 (Six, Bouwstoffen, part I, p. 207).

Genus Haliaëtus.

Haliaëtus albicilla (Linn.).

A regular winter visitant to the sea coast of Holland.

A resident, though almost exterminated, breeding on the rocky coasts of Scotland and Ireland. A regular or not infrequent visitor to England, from the continent.

Genus Astur.

Astur palumbarius (Linn.).

A resident, breeding in the wooded districts of Holland. A rare straggler to the British Islands.

(*Astur atricapillus*) (Wilson).

Genus Accipiter.

Accipiter nisus (Linn.).

A regular resident in Holland and the Br. Isl.

Genus Milvus.

Milvus iclinus Savigny.

An accidental visitor to Holland in autumn and winter. Still a resident in England though nearly exterminated (H.S.).

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Milvus migrans (Boddaert).

Has occurred a few times in Holland on migration, has once occurred in the British Islands (L. Br. B. p. 99).

Genus Elanoïdes.

(*Elanoïdes furcatus*) (Linn.).

Genus Pernis.

Pernis apivorus (Linn.).

A scarce summer visitor to Holland, breeding in the provinces N. Brabant, Groningen and N. Holland.

A rare summer visitor to the Br. Isl., sometimes breeding there.

Genus Hierofalco.

Hierofalco gyrfalco Linn.

Visits irregularly the coasts of Holland on migration, one was obtained, Oct. 1849, near Noordwijk (Bouwstoff. prt. I, p. 61. Leyden Museum), an other one on 3 Dec. 1864, near Zandvoort (Nederl. Tijdschrift v. de Dierkunde, prt. III, p. 243). — See also prof. Schlegel, Vog. v. Ned. p. 12 and Revue critique des oiseaux d'Europe, seconde partie, pag. 5, both implying the probability of it being only the norwegian form that visits Holland. Has *once* occurred in England (Seebohm Hist. B. B. i. p. 19).

(*Hierofalco candicans*) (Gmelin).

(*Hierofalco islandicus*) (Gmelin).

Genus Falco.

Falco peregrinus Tunstall.

A visitor to Holland on migration. Formerly a common resident in the Br. Isl., now getting scarce.

Falco barbarus Linn.

Has twice occurred in Holland. The last time in 1886 near Cromvoirt (Museum Zool. Society of Amsterdam).

Falco subbuteo Linn.

A regular summer visitant to Holland and the British Islands.

Falco aesalon Tunstall.

On migration in spring and autumn in Holland.

In the Br. Isl. a winter visitor; breeding in the North (L. Br. B. p. 103).

Genus Tinnunculus.

(*Tinnunculus vespertinus*) (Linn.).

(*Tinnunculus alaudarius*) (Gmelin).

A numerous resident in Holland, sometimes leaving in autumn. A resident in the Br. Isl.

(*Tinnunculus cenchris*) (Naumann).

(*Tinnunculus sparverius*) (Linn.).

Genus Pandion.

Pandion haliaëtus (Linn.).

A rare visitor to Holland; formerly breeding there.

A regular visitor to the British Isl.; still breeding in Scotland.

Order STEGANOPODES.

Genus Phalacrocorax.

Phalacrocorax carbo (Linn.).

A common resident in Holland, breeding on the ground or, if in trees, generally in company with *Ardea cinerea*. Common in the Br. Isl., breeding on the sea-cliffs and on inland waters.

Phalacrocorax graculus (Linn.).

A rare straggler to Holland.

A common resident on the rocky coast of the Br. Isl.

Genus Sula.

Sula bassana (Linn.).

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An occasional straggler to Holland in stormy weather.
A resident, breeding on the rocky coasts of the Br. Isl.

Order HERODIONES.

Genus Ardea.

Ardea cinerea Linn.

A common resident in Holland and the Br. Islands.

Ardea purpurea Linn.

A common summer visitor in Holland in the south western provinces where it breeds. Rarer in other places. It breeds in reed covered marshes. The nests are found in their favourite breeding places often in large numbers together. They are about three feet above the water and are made of the reed itself which is bent down so as to make a platform. The bluegreen eggs are almost invariably four in number and as the young vary very much in size in the same nest; it is quite probable that the old bird begins to incubate directly after the first egg is laid, and that she does not lay every day.

A rare straggler to the Br. Isl.

Ardea alba Linn.

An accidental visitor to Holland and the Br. Isl.

Ardea garzetta Linn.

Of accidental occurrence in Holland and the Br. Isl.

(Ardea bubulcus) Audouin.

Ardea ralloides Scopoli.

A rare visitor on migration to Holland and the Br. Isl.

Genus Ardetta.

Ardetta minuta (Linn.).

A regular summer visitant to watery reedgrown districts, where it breeds. A not very numerous visitor to the Br. Isl.

Genus Nycticorax.

Nycticorax griseus (Linn.).

Breeds in small numbers in the province Zuid Holland. It makes its nest on trees. Leaves in autumn.

A rare straggler to the Br. Isl.

Genus **Botaurus.**

Botaurus stellaris Linn.

A regular but not numerous summer visitor to Holland, where it breeds in marshes.

A formerly common *regular visitor* to the Br. Isl. in cool weather (H. S.).

(*Botaurus lentiginosus*) (Montagu).

Genus **Ciconia.**

Ciconia alba Bechstein.

A regular summer visitor to Holland, more numerous in the western provinces, generally coming in march and leaving about the 20th of August. The nest is made on flat chimney-tops, on a wheel placed on the top of a long pole, or on trees that have lost their crown so as to make a suitable foundation for the large nest. — A rare straggler to the Br. Isl.

Ciconia nigra (Linn.).

A rare straggler to Holland and the Br. Isl.

Genus **Platalea.**

Platalea leucorodia Linn.

Formerly a very numerous summer visitor to Holland, where it bred in large colonies in several localities.

As in later years so many marshes and lakes have been drained, their breeding places have considerably decreased, so that only *two* colonies remain which are in the prov. Noord Holland.

The nest is from one to three feet high, generally built in shallow places of the marsh so that it reposes on the mud. If the water is deeper it is more or less floating on the water but is always made of, and surrounded entirely by reed — so that it never floats about.

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The eggs are three, or very seldom four in number and the young which are generally hatched in June differ considerably in size in the same nest, so that the largest of them is often almost completely feathered whilst the smallest is still in down.

It is exactly the same case as with the purple heron and has probably the same cause. Very young chicks have a short soft and bright yellow bill, the cere round it and the skin round the eyes is bright blue. After a time these fine colours fade away and the bill gets a pale flesh colour, and only several months after the birds have gone out of the nest the bill gets its proper size and colour. In the Br. Islands this bird formerly bred but is now a mere straggler.

Genus Plegadis.

Plegadis falcinellus (Linn.).

An accidental straggler to Holland and the Br. Isl.

Order ANSERES.

Genus Anser.

Anser cinereus Meyer.

Breeds in small numbers in Friesland, visiting other parts on migration in autumn and winter and is never numerous.

Breeds in the North of Scotland; a winter visitant elsewhere.

Anser arvensis Naum.

This larger form of *Anser segetum* is easily distinguished from the other by its larger size and longer bill which is orange, the black back, nail and lower mandible of it excepted; occurs in Holland in autumn and winter in large flocks.

Probably this bird does not occur in the Br. Isl. or if it does, has been overlooked as a distinct form of *Anser segetum*.

Anser segetum (Gmel.).

Visits Holland later than the preceding generally in January and February and is never so numerous as *Anser arcensis*. A winter visitor to the northern parts of the British Islands.

Anser brachyrhynchus Baillon.

A scarce winter visitor to Holland. A regular winter visitor to the northern and eastern districts of the Br. Islands.

Anser albifrons (Scopoli).

A regular and numerous winter visitor to Holland.

Anser albifrons var. *roseipes* Schlegel (Schl., V. v. N. p. 518) is a hybrid between *Anser albifrons* and *Anser cinereus* bred in semi-confinement by the goose catchers.

Anser minutus Naum.

A scarce winter visitor to Holland, generally occurring in company of the more numerous *Anser albifrons*.

A rare straggler to England, having been observed there for the first time in 1886 (P. Z. S. 1886, p. 420).

*Genus Chen.**Chen albatus* (Cassin).

A rare winter visitor to Holland, which has occasionally been seen but has never been obtained, so that it is not certain whether the birds seen, are *Chen albatus* or *Chen hyperboreus*. Has occurred a few times in the Br. Isl.

*Genus Bernicla.**Bernicla brenta* (Pallas).

A numerous winter and spring visitor, especially to the sea coasts of Holland, sometimes occurring in very large numbers.

A winter visitor to the Br. Isl.

Bernicla leucopsis (Bechstein).

An irregular winter visitant to Holland.

A winter visitant to the Br. Islands.

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Bernicla ruficollis (Pallas).

A rare winter visitor to Holland (f. i. five specimens in the Zool. Soc. Museum and Menagerie of Amsterdam) and the Br. Isl.

*Genus Cygnus.**Cygnus olor* (Gmelin).

Has been obtained wild during the winter in the northern provinces of Holland. As this species is kept so much in more or less domesticated condition especially in Noord and Zuid Holland, I think it open to doubt whether they were really wild birds.

In the Br. Isl. the same thing occurs.

Cygnus immutabilis Yarrell (var. of *C. olor*).

Is kept very much like the preceding and has been shot apparently in wild state.

An occasional winter visitor to the Br. Islands.

Cygnus musicus Bechstein.

A common winter visitant to Holland and Brit. Islands.

Cygnus Bewicki Yarrell.

A winter visitor to Holland, but less frequent than *Cygnus musicus*.

A winter visitor to the Br. Isl.

*Genus Tadorna.**Tadorna cornuta* (Gmelin).

Breeds in different places along the sea shore of Holland also far inland, in old rabbit-holes often at a great distance from the water. Resident in some places of the British Islands.

(*Tadorna casarca*) (Linn.).

*Genus Mareca.**Mareca penelope* (Linn.).

A winter visitor to Holland, seldom remaining to breed. Breeds in Scotland, on migration in winter elsewhere.

(*Mareca americana*) (Gmelin).

Genus **Dafila.***Dafila acuta* (Linn.).

Breeds in Holland in tolerable numbers in marshes and larger pieces of water, and is found on migration in autumn more generally. A winter visitor to England, breeding in Scotland and Ireland in small numbers.

Genus **Anas.***Anas boschas* Linn.

Resident and common in Holland. A great number of migrants join these residents during the winter.

A general resident in the Br. Islands.

Genus **Chaulelasmus.***Chaulelasmus streperus* (Linn.).

A scarce summer visitant to Holland, coming in March and leaving in October.

A winter visitor to the Br. Isl., *regularly* breeding in Norfolk in large numbers (H. S.).

Genus **Querquedula.***Querquedula circia* (Linn.).

A summer visitor to Holland and England.

(Querquedula discors) (Linn.).*Querquedula crecca* (Linn.).

A summer visitor, generally breeding in Holland. In autumn and spring large numbers pass through the country on migration.

A resident in the Br. Isl.

(Querquedula carolinensis) (Gmelin).*Genus* **Spatula.***Spatula clypeata* (Linn.).

Breeds in Holland and generally leaves in autumn.

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Breeds in Brit. Islands in some districts; on migration in winter elsewhere.

Genus Fuligula.

Fuligula rufina (Pallas).

A rare straggler to Holland and the Br. Isl.; is said to have bred in Holland on the Naarder meer (Tijdschrift der Nederl. Dierk. Vereeniging, deel IV, bl. 100).

Fuligula cristata (Leach).

A winter visitor to Holland.

Breeds in several places of England and Scotland. On migration elsewhere.

Fuligula marila (Linn.).

A winter visitor to Holland and the Br. Isl. It breeds sparingly in Scotland.

Fuligula ferina (Linn.).

A winter visitor to Holland and England, breeding in several localities of the United Kingdom.

Fuligula affinis Eyton.

Has once been obtained in Holland in 1859 (Museum of Nat. History of Leyden, Bouwstoffen, Dl. III, bl. 258).

Genus Nyroca.

Nyroca ferruginea (Gmelin).

A scarce winter visitor to Holland, has been known to breed near Rotterdam.

A rare straggler to the eastern coasts of England.

Genus Clangula.

Clangula glaucion (Linn.).

A winter visitor to Holland, sometimes appearing in great numbers.

A winter visitor to the Br. Isl., especially the north.

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(*Clangula islandica*) (Gmelin).

(*Clangula albeola*) (Linn.).

Genus **Cosmonetta.**

(*Cosmonetta histrionica*) (Linn.).

Genus **Harelda.**

Harelda glacialis (Linn.).

An irregular winter visitor to Holland. A winter visitor to the Brit. Isl., breeding in Shetland in small numbers.

Genus **Heniconetta.**

(*Heniconetta Stelleri*) (Pallas).

Genus **Somateria.**

Somateria mollissima (Linn.).

A winter visitant to Holland, especially to the northern coasts and on the Zuiderzee. Breeds from the Fern Islands northwards. Elsewhere a winter visitor to the coast of the British islands.

(*Somateria spectabilis*) (Linn.).

Genus **Oedemia.**

Oedemia nigra (Linn.).

A numerous and regular winter visitor to Holland.

A winter visitor to the Br. Islands, breeding in the north of Scotland.

Oedemia fusca (Linn.).

A winter visitant to Holland, but less numerous than *Oedemia nigra*.

A winter visitor to the coasts of the Br. Isl., sometimes suspected of breeding in Scotland (H. S.).

(*Oedemia perspicillata*) (Linn.).

Genus **Erismatura.**

Erismatura leucocephala (Scop.).

A rare straggler to Holland, has once occurred near Rotterdam in 1859 (Zool. Gard. Museum of Rotterdam) and a second time in 1874 near Zaandam (Coll. van Wickevoort Crommelin).

Genus Mergus.

Mergus merganser Linn.

A winter visitor to Holland.

A winter visitant to the British Islands, breeding sparingly in the northern half of Scotland.

Mergus serrator Linn.

A winter visitor to Holland and the Br. Islands, breeding in Scotland and Ireland.

(*Mergus cucullatus*) Linn.

Mergus albellus Linn.

A regular winter visitor to Holland.

Of irregular occurrence in winter in the Brit. Isl.

Order COLUMBAE.

Genus Columba.

Columba palumbus Linn.

A common resident in Holland and the Brit. Isl.

Columba oenas Linn.

A rare local resident, breeding in Utrecht, Gelderland, Noord Holland and Noord Brabant. This bird is generally considered to be a summer visitant only, I myself observed it at 's Graveland every month of the year.

Breeds in most parts of the Br. Islands (H. S.).

(*Columba livia*) ** Bonnaterre.

Genus Turtur.

Turtur communis Selby.

A summer visitor to Holland, breeding all over the country.

A summer visitor to the southern counties of England, rarer in the north and Ireland, a rare straggler to Scotland.

Genus **Ectopistes.**

(*Ectopistes migratorius*) (Linn.).

Genus **Syrrhaptes.**

Syrrhaptes paradoxus (Pallas).

Has occurred in large numbers in Holland and England, the last time in 1889 when several eggs were laid in the dunes near Haarlem and elsewhere, but no young birds I believe came to maturity.

Order GALLINAE.

Genus **Phasianus.**

Phasianus colchicus Linn.

Naturalized and common in different parts of Holland and the Brit. Isl.

Genus **Caccabis.**

(*Caccabis rufa*) ** (Linn.).

(*Caccabis petrosa*) (Gmelin).

Genus **Perdix.**

Perdix cinerea Latham.

A common resident in Holland and the Br. Isl.

Genus **Coturnix.**

Coturnix communis Bonnaterre.

A summer visitor to different parts of Holland, but never numerous. An irregularly distributed visitor to the Br. Islands during the summer.

Genus **Lagopus.**

(*Lagopus mutus*) ** (Montin).

(*Lagopus scoticus*) ** (Latham).

Genus **Tetrao.***Tetrao tetrix* Linn.

A resident in the Moorlands of Drenthe and Overijssel — occurring in similar places in Scotland — it is not found in Ireland and very locally in England (H. S.).

(*Tetrao urogallus*) ** Linn.

Order HEMIPODII.*Genus* **Turnix.**

(*Turnix sylvatica*) (Desfontaines).

Order FULICARIAE.*Genus* **Rallus.***Rallus aquaticus* Linn.

Resident in Holland and the Br. Islands.

Genus **Porzana.***Porzana maruetta* (Leach).

A sparingly distributed summer visitor to Holland and the Br. Isl.

Porzana Bailloni (Vieillot).

A scarce summer visitor to Holland, where it breeds in different localities. An irregular visitor to the Br. Islands, having twice bred there (H. S.).

Porzana parva (Scopoli).

A rare visitor to Holland and the Br. Isl.

Genus **Crex.***Crex pratensis* Bechstein.

A summer visitor to Holland and the Br. Isl.

Genus **Gallinula.***Gallinula chloropus* (Linn.).

Resident in Holland and the Br. Isl.

Genus Fulica.

Fulica atra Linn.

A numerous resident in suitable places of Holland, partially leaving in autumn.

Resident in the Br. Isl.

Order ALECTORIDES.*Genus Grus.*

Grus communis Bechstein.

A rare autumnal visitor to Holland. A rare straggler to the Br. Islands.

Genus Otis.

Otis tarda Linn.

An irregular winter visitor to Holland and the Br. Isl.

Otis tetra Linn.

A rare straggler to Holland and the Br. Isl.

Genus Houbara.

Houbara Macqueenii (Gray).

Has once occurred in 1850 near Zeist, Utrecht (Bouwstoffen, N^o. 134, I, bl. 212), and once in England in 1847 — in Lincolnshire.

Order LIMICOLAE.*Genus Oedienemus.*

Oedienemus scolopax (Gmelin).

A sparingly distributed summer visitor to Holland, breeding in the dunes of Zuid Holland and Noord Holland and in Noord Brabant. A summer visitor to England, rare in Scotland and Ireland.

Genus Glareola.

Glareola pratensis (Linn.).

On specimen was caught on the 24th of July 1892 near

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Vlymen, Noord Brabant (H. Albarda, Journal für Ornithologie, Heft IV, October 1892, p. 424). A rare visitor to the Br. Islands.

Genus Cursorius.

Cursorius gallicus (Gmelin).

A rare straggler to Holland and the Br. Isl.

Genus Charadrius.

Charadrius pluvialis Linn.

A summer visitor to Holland, leaving in autumn and breeding in Gelderland, Noord Brabant and Friesland.

A resident in the Br. Isl., breeding mostly in the northern districts.

(*Charadrius fulvus*) Gmel.

Genus Squatarola.

Squatarola helvetica (Linn.).

Visits the sea coasts of Holland and the Br. Isl. in autumn and spring.

Genus Aegialitis.

Aegialitis cantiana (Lath.).

Breeds in tolerable numbers in Holland on the islands of the North Sea. More generally distributed in autumn during migration.

A spring visitor to England, breeding in small numbers on the south-coasts.

Aegialitis curonica (Gmel.).

Breeds in Holland, in Noord-Brabant and elsewhere; on migration along the sea coasts in autumn.

A very rare straggler to the coasts of the Br. Islands.

Aegialitis hiaticula (Linn.).

On migration in Holland in autumn along the sea coasts. A few pairs breed on Ameland (North Sea) and Rozenburg, near Brielle (Koller, Naaml. Ned. Vogels, p. 50).

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A common resident in the Br. Islands.

(*Aegialitis asiatica*) (Pall.).

(*Aegialitis vocifera*) (Linn.).

Genus Eudromias.

Eudromias morinellus (Linn.).

Visits Holland on migration in autumn and spring and breeds in restricted numbers in the dunes (Schleg., V. v. N., p. 415). — Breeds in the N. W. of England and in Scotland. On migration elsewhere.

Genus Vanellus.

Vanellus vulgaris Bechst.

A regular and very numerous summer visitor to Holland; breeding chiefly in Friesland, Groningen, Noord and Zuid-Holland. It leaves in autumn.

A resident in the Br. Isl., but not so numerous there as it is in Holland.

Genus Streptilas.

Streptilas interpres (Linn.).

A winter visitor along the sea coasts of Holland and the Br. Islands.

Genus Haematopus.

Haematopus ostralegus Linn.

Breeds in Holland in the dunes along the sea coasts. Often but not always leaving in autumn.

Resident in the north of England also; breeding plentifully in the south where localities are suitable (H. S.).

Genus Recurvirostra.

Recurvirostra avocetta Linn.

Breeds regularly in Holland on the islands of the North Sea, in Zeeland and Zuid Holland. — It leaves in autumn. A visitor to England, where it used to nest regularly (H. S.).

Genus **Himantopus.**

Himantopus candidus Bonnaterre.

Has occurred a few times in Holland (Coll. H. v. d. Goor in Cromvoirt and Zool. Gardens Museum of Rotterdam). An irregular straggler to England.

Genus **Phalaropus.**

Phalaropus hyperboreus (Linn.).

A rare winter visitor to Holland.

A regular summer visitor to some of the islands of Scotland; elsewhere in winter, but *rarely*.

Phalaropus fulicarius (Linn.).

An irregular winter visitor to Holland and England.

Genus **Scolopax.**

Scolopax rusticola Linn.

Breeds in Holland in small numbers, numerous in autumn, less numerous in spring on passage.

A winter visitor to the Br. Isl., breeding in different counties; 400 or 500 nests in Sussex *alone*, annually (H. S.).

Genus **Gallinago.**

Gallinago major (Gmel.).

An irregular visitor in spring and autumn to Holland and the Br. Isl.

Gallinago caelestis (Frenzel).

A regular summer visitor, breeding in Friesland, Noord Brabant, Groningen and Zuid Holland, on migration elsewhere. Common in the Br. Isl.

Genus **Limnocryptes.**

Limnocryptes gallinula (Linn.).

A winter visitor to Holland.

According to Mr. van Bemmelen (Bouwstoffen, II, p. 127, 1856) a nest with eggs was found in the prov. of Gro-

ningen by a man who was able to distinguish the species. Mr. v. B. did not *see* the eggs however. No other example having occurred the fact stands isolated and doubtful. Mr. Herman Albarda of Leeuwarden doubts this species has ever bred in the north of Holland. In Schleg. V. v. N. p. 436, the instance of v. Bemmelen is alluded to.

A winter visitor to the Br. Isl.

Genus Limicola.

Limicola platyrhyncha (Temm.).

A very rare straggler to Holland. One was shot on the 15th of August 1862 at the Hoek van Holland (Nat. Hist. Museum of Leyden).

A rare visitor to the Br. Islands.

Genus Tringa.

(*Tringa maculata*) Vieillot.

(*Tringa fuscicollis*) Vieill.

Tringa alpina Linn.

A summer visitor to Holland, breeding in Friesland and the Hoek van Holland. More generally distributed on migration in autumn and spring. Chiefly a winter visitor to the British coasts, but breeds on the moors, especially in the north.

Tringa minuta Leisler.

On migration in Holland and the Br. Isl.

Tringa Temmincki Leisler.

A rare visitor to Holland and England on migration.

(*Tringa minutilla*) Vieill.

Tringa subarquata (Güldenstädt).

A winter visitor to Holland and the Br. Islands from autumn to spring.

Tringa striata Linn.

A regular winter visitor to Holland and the Br. Islands.

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Tringa canutus Linn.

A winter visitor to Holland and the Br. Islands.

Genus Machetes.

Machetes pugnax (Linn.).

A regular and numerous summer visitor to Holland in suitable localities, breeding in low marshy meadows.

Formerly breeding abundantly in the east of England, now only does so sparingly (H. S.).

Genus Calidris.

Calidris arenaria (Linn.).

A regular and numerous winter visitor to Holland and the Br. Isl.

Genus Tryngites.

(*Tryngites rufescens*) (Vieill.).

Genus Actiturus.

(*Actiturus longicauda*) (Bechst.).

Genus Tringoides.

Tringoides hypoleucus (Linn.).

A summer visitor to Holland and the Br. Isl.

Genus Helodromas.

Helodromas ochropus (Linn.).

A visitor to Holland and the Br. Isl., especially in spring and autumn.

Genus Totanus.

Totanus glareola (Gmel.).

Breeds in Holland in low marshy places. A straggler on migration in the British islands; has been known to breed (H. S.).

Totanus calidris (Linn.).

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A regular summer visitor to Holland, breeding in marshy places and lowly situated meadows. Generally leaving in autumn.

A resident in the Br. Islands.

Totanus fuscus (Linn.).

A regular visitor on migration to Holland in autumn and spring near the sea coasts.

A straggler during migration to the Br. Isl.

Totanus canescens (Gmel.).

Visits Holland on migration from autumn till spring.

The same in England. Breeds regularly in the north and west of Scotland (H. S.).

Genus **Macrorhamphus.**

(*Macrorhamphus griseus*) (Gmel.).

Genus **Limosa.**

Limosa lapponica (Linn.).

Occurs in Holland on migration in autumn and spring and »sometimes remains to breed on the mouth of the Maas" (according to Schlegel, V. v. N. p. 441), but this has since not been verified.

Eggs have also been obtained near Vlymen, prov. N. Brabant (Koller, Naamlijst v. Ned. Vogels, p. 53). On migration in England.

Limosa aegocephala (Linn.).

A regular summer visitor to Holland, where it breeds on low meadows and other marshy places. It leaves early in late summer or autumn.

An autumn and spring visitor to the Br. Islands, where it formerly bred.

Genus **Numenius.**

(*Numenius borealis*) (Forster).

Numenius phaeopus (Linn.).

Accurs on migration in Holland and the Br. Isl.; breeds in the Orkneys and Shetland.

Numenius arquatus (Linn.).

Breeds in Holland in the dunes and in marshy places.

It visits the sea coasts of the Br. Isl. and breeds on the moors of the British Islands.

Numenius tenuirostris (Vieillot).

A bird of this kind has been obtained in 1856 on the 5th of December near Spaarndam (Schlegel V. v. N. p. 468). A second specimen was captured on the 27th of December 1889 near Hallum in Friesland (Herman Albarda J. f. O. 1892, p. 425). Has not occurred in England.

Order GAVIAE.

Genus Sterna.

Sterna macrura Naum.

One was shot near Leyden on the 18th of October 1862. See Schlegel's Catalogue, VI, p. 16, N^o. 4.

A regular summer visitor to the British islands.

Sterna fluviatilis Naum.

A regular summer visitor to Holland; breeding in the dunes along the sea coast, or inland along the rivers, on low meadows and on floating weeds in marshes and small lakes, often found in the midst of the heath.

A summer visitor to the sea coasts and lakes of the Br. Islands.

(*Sterna Dougallii*) Montagu.

Sterna minuta Linn.

Breeds in small numbers on the sandplates of the coast of Holland, leaving early in autumn.

The same thing occurs in the Br. Isl.

Sterna caspia Pallas.

An irregular visitor to the coasts of Holland and the Br. Islands.

Sterna anglica Montagu.

An irregular visitor to Holland and the Br. Isl.

One was shot 15 Aug. 1838 on the Brasemer-meer (Zool. Mus. of Leyden).

Sterna cantiaca Gmelin.

Breeds in large numbers on the North Sea Islands of Holland and on the dunes of Zeeland. A regular summer visitor to the British Islands.

(*Sterna fuliginosa*) Gmel.

Genus **Hydrochelidon.**

(*Hydrochelidon anaesthesia*) Scopoli.

(*Hydrochelidon hybrida*) (Pall.).

(*Hydrochelidon leucoptera*) (Schinz).

Hydrochelidon nigra (Linn.).

A common summer visitor to Holland, breeding generally on floating weed in marshes and all larger pieces of water.

Formerly breeding in England; now chiefly occurring on migration.

Genus **Anous.**

(*Anous stolidus*) (Linn.).

Genus **Pagophila.**

(*Pagophila eburnea*) (Phipps).

Genus **Rissa.**

Rissa tridactyla (Linn.).

A rare winter visitor to Holland. A regular summer visitor to the northern coasts of the Br. Islands where it breeds — thousands in *extreme* S. W. (H. S.).

Genus **Larus.**

Larus glaucus Fabricius.

A winter visitor to Holland and the Br. Isl.

Notes from the Leyden Museum, Vol. XV.

Larus leucopterus Faber.

A very rare visitor to Holland (Schl. V. v. N. p. 596).
Also rare on the British coasts in winter, very rare in
England.

Larus argentatus Gmelin.

A resident in Holland and the Br. Isl.

Larus fuscus Linn.

A winter visitor to the sea coasts of Holland.

A resident in the Br. Isl., breeding in different localities.

Larus canus Linn.

A resident in Holland, breeds on the islands of the
North Sea — from where I often got eggs and young
birds. In winter it spreads over the country, visiting the
low meadows in large numbers. Breeds in Scotland and
Ireland, a visitor to England.

Larus marinus Linn.

A resident in Holland, breeding on the dunes.

A resident in the Br. Isl.

(*Larus ichthyaetus*) Pallas.

(*Larus melanocephalus*) Natterer.

Larus ridibundus Linn.

A resident in Holland, breeding in marshes. In winter
great numbers visit the canals of Amsterdam, where they
stay untill the ice is gone in spring.

A resident, partially migratory, in the Br. Isl.

Larus minutus Pall.

Breeds in small numbers on the *Hoek van Holland*, a
winter visitor elsewhere (Schl. Vog. v. Ned. p. 605).

An irregular winter visitor to England.

(*Larus philadelphia*) (Ord.).

Genus Xema.

Xema Sabinii Joseph Sabine.

Notes from the Leyden Museum, Vol. XV.

The first bird of this species was captured in Holland on the 11th of October 1892 on the Hoek van Holland (Museum Zool. Soc. of the Hague). A rare straggler to the Br. Islands.

Genus Stercorarius.

Stercorarius catarrhactes (Temm.).

A rare visitor, generally in stormy weather to the coasts of Holland. A spring and autumn visitor to the coasts of Gr. Britain and Ireland; breeding in the Shetland Islands.

Stercorarius pomatorhinus (Linn.).

An irregular visitor on migration to the coasts of Holland.

The same thing occurs in the Br. Isl., but it is there more numerous than it is in Holland.

Stercorarius crepidatus (Gmel.).

A visitor on migration to the coasts of Holland.

In the British Islands it breeds in the Orkneys, Shetlands, Hebrides and a few places in the north of Scotland; on migration elsewhere.

Stercorarius parasiticus (Linn.).

An occasional visitor on migration to the coasts of Holland and the Br. Isl.

Stercorarius cephus Keyserl. and Blas.

A rare accidental visitor to the Dutch coasts (Bouwst., part III, p. 528).

Order TUBINARES.

Genus Procellaria.

Procellaria pelagica Linn.

An irregular visitor by stormy weather to Holland. Breeds on the rocky coasts of the British Islands.

Procellaria leucorrhoa Vieill.

An irregular visitor to the coasts of Holland.

Notes from the Leyden Museum, Vol. XV.

In the Br. Isl. it occurs as a straggler on the coasts, by stormy weather, and breeds at St. Kilda, Blaskets and several other places.

Genus Oceanites.

(*Oceanites oceanicus*) (Kuhl).

Genus Pelagodroma.

(*Pelagodroma marina*) Reichenbach.

Genus Puffinus.

Puffinus anglorum (Temm.).

Has occurred a few times during heavy storms on the coasts of Holland (Schlegel, V. v. N. p. 585).

A resident in the Br. Isl., breeding on the coasts.

(*Puffinus griseus*) (Gmelin).

(*Puffinus major*) Faber.

Puffinus obscurus (Gmelin).

A rare straggler to the coasts of Holland (Temm., Bouwst., Dl. I, p. 102; Schl. V. v. N. p. 585) and the Br. Isl.

Genus Fulmarus.

Fulmarus glacialis (Linn.).

An irregular straggler to Holland by heavy storms.

In the British Islands it breeds on the St. Kilda group and on one of the Shetlands. A winter visitor elsewhere.

Genus Oestrelata.

(*Oestrelata haesitata*) (Kuhl).

(*Oestrelata torquata*) (Macg.).

Genus Bulweria.

(*Bulweria columbina*) (Moquin-Tandon).

Order PYGOPODES.**Genus Colymbus.**

Colymbus glacialis Linn.

A rare winter visitor to the coasts of Holland. Is believed to breed in some of the Shetland Islands.

A winter visitor elsewhere on the coasts of the United Kingdom.

Some adults often stay till June even in S. and W. (H.S.).

Colymbus arcticus Linn.

Visits Holland on migration in small numbers.

In the Br. Isl. it breeds in the north of Scotland.

Colymbus septentrionalis Linn.

Visits Holland on migration during the winter; in larger numbers than the two preceding.

Visits the British coasts on migration almost all the year round, breeding in the north of Scotland and Ireland.

Genus Podiceps.

Podiceps cristatus (Linn.).

A summer visitor to Holland, breeding on all larger lakes and marshes.

In the British Islands it breeds in small numbers on some of the lakes of England and Ireland, occurring on migration and in winter elsewhere.

Podiceps griseigena (Bodd.).

Breeds in Holland in the same places as the preceding but in smaller numbers — and occurs also on migration from autumn till spring. A rare visitor on migration in the Br. Islands.

Podiceps auritus (Linn.).

A scarce winter visitor to Holland, having bred in Noord-Brabant (Koller, Vog. v. Ned., p. 64).

Notes from the Leyden Museum, Vol. XV.

A common winter visitor to Scotland, Ireland and the northern and eastern coasts of England, less numerous elsewhere.

Podiceps nigricollis Brehm.

Visits Holland on migration in small numbers; has bred in Zuid-Holland and Noord-Brabant (Koller, Vogels v. Ned., p. 65).

Of irregular occurrence on migration in the Br. Islands.

Genus Tachybaptus.

Tachybaptus fluviatilis (Tunstall).

A resident in Holland and the Br. Isl.

Genus Alca.

Alca torda Linn.

A winter visitor to Holland on migration.

A resident in the Br. Islands, breeding on the rocky coasts.

Genus Lomvia.

Lomvia troile Linn.

Occurs on the coasts of Holland as a straggler all the year round.

A resident in the United Kingdom.

Lomvia Bruennichi (Sabine).

A rare winter visitor to the coast of Holland (Schl., V. v. Ned. p. 497): doubtfully in the Br. Isl., though probably (H. S.).

Genus Uria.

Uria grylle (Linn.).

A rare winter straggler to the coasts of Holland.

In the Br. Islands it breeds on the coasts of Scotland and Ireland; occurring on migration elsewhere.

Notes from the Leyden Museum, Vol. XV.

*Genus Mergulus.**Mergulus alle* (Linn.).

An irregular visitor to the coasts of Holland; chiefly by stormy weather.

Also an irregular visitor to the British coasts, but sometimes occurring in large numbers.

*Genus Fratercula.**Fratercula arctica* (Linn.).

Of irregular occurrence as a straggler on the coasts of Holland.

Breeds in large numbers on the British coasts, migrating southwards in winter.

Part c.

TABLE OF DUTCH BIRDS.

	Residents.	Summer visitors.	Winter visitors.	Occasional visitors.	Total.
I. Passeres	23	47	18	31	119
II. Picariae	5	5	—	3	13
III. Striges	5	—	—	2	7
IV. Accipitres	4	5	5	10	24
V. Steganopodes	1	—	—	2	3
VI. Herodiones	1	6	—	5	12
VII. Anseres	4	4	21	8	37
VIII. Columbæ	1	2	—	—	3
IX. Pterocletes	—	—	—	1	1
X. Gallinae	3	1	—	—	4
XI. Fulicariae	3	3	—	1	7
XII. Alectorides	—	—	—	4	4
XIII. Hemipodii	—	—	—	—	—
XIV. Limicolæ	1	17	15	7	40
XV. Gaviae	5	4	3	10	22
XVI. Tubinares	—	—	—	5	5
XVII. Pygopodes	1	2	6	5	14
	57	96	68	94	315

Notes from the Leyden Museum, Vol. XV.

TABLE OF BRITISH BIRDS.

	Residents.	Summer visitors.	Winter visitors.	Occasional visitors.	Total.
I. Passeres	50	23	6	54	133
II. Picariae	4	4	—	10	18
III. Striges	4	—	—	7	11
IV. Accipitres	12	2	—	14	28
V. Steganopodes	3	—	—	—	3
VI. Herodiones	1	—	—	13	14
VII. Anseres	17	1	9	18	45
VIII. Columbæ	3	1	—	1	5
IX. Pterocletes	—	—	—	1	1
X. Gallinae	7	1	—	1	9
XI. Fulicariae	3	2	—	2	7
XII. Alektorides	—	—	—	4	4
XIII. Hemipodii	—	—	—	1	1
XIV. Limicolæ	3	13	13	20	49
XV. Gaviae	9	5	2	15	31
XVI. Tubinares	4	—	—	8	12
XVII. Pygopodes	7	—	1	6	14
	127	52	31	175	385

's Graveland, April 1893.

NOTE XXX.

OBSERVATIONS SUR QUELQUES ESPÈCES DU GENRE
OXYOPISTHEN ET DESCRIPTION D'ESPÈCES
APPARTENANT AU MÊME GROUPE,

PAR

W. ROELOFS.

Mr. R. Oberthür a bien voulu me communiquer les espèces du groupe des *Oxyopisthen* que renferme sa riche collection; je donne ici le résultat de leur étude et de leur comparaison avec les espèces de la collection de Mr. Neervoort van de Poll, et du Musée civique de Gênes; le conservateur de ce Musée, le Dr. Gestro, ayant bien voulu me communiquer, avec sa bienveillance habituelle ce que son Musée possède de ces insectes.

Oxyopisthen Westermanni Auriv.

Le Musée civique de Gênes, possède un individu unique (♂) de l'*Oxyopisthen Westermanni* Auriv., de forte taille et remarquable par sa grande fraîcheur. Les taches, blanches chez les autres individus que je connais, sont chez lui jaune-d'ocre, surtout celles du prothorax, sur les stries (ou plutôt intervalles des côtes) des élytres se trouve un rang de petits bouquets de poils jaunes, dont il reste à peine un vestige chez les autres individus que j'ai vu, les côtes elles-mêmes sont d'un noir mat et se distinguent fortement de l'épaule et du bord de l'élytre, qui sont d'un noir luisant.

L'individu porte l'indication: Victoria, April, D. Gerst. 1871.

Notes from the Leyden Museum, Vol. XV.

Oxyopisthen funerarium Thoms. var.

Cette belle variété présente un dessin blanc-jaunâtre, dont les lignes sont sensiblement plus larges que chez le type.

La tache à la base des élytres est plus large et plus liée avec celle qui longe la suture et cette dernière à son tour, plus liée avec la branche postérieure, qui est plus large et plus arquée au bout; l'ensemble forme une espèce d'X, plus complet.

Sur le pygidium sont deux taches blanches plus apparentes, que chez les individus du type, chez qui elles font souvent défaut. Les deux individus que j'ai sous les yeux sont plus massifs et plus larges aux épaules, que les individus du type que je connais.

Deux individus (♂ et ♀) dans la collection R. Oberthür, marqués: Franceville (Intérieur du Congo Français), ex Mus. Gambey, 1892.

Oxyopisthen depressum, n. sp.

Oxyopisthen rufofemoratum Auriv. et Roel. nec Thomson.
Long. 16 à 19 mill., rostr. excl.

Voisin de *rufofemoratum* Thoms., noir, luisant, avec les cuisses, sauf leur base et leur extrémité, rouges; des taches argentées, peu constantes, une au dessus des cuisses, postérieures et une autre sur le mésosternum, contre l'épaule de l'élytre. Rostre un peu plus long que le prothorax, légèrement arqué, faiblement élargi, subcaréné et couvert d'une ponctuation, seulement visible avec un fort grossissement vers le bout. Tête avec un point déprimé à la naissance du rostre, entre les yeux, couverte d'une ponctuation fine et peu serrée. Prothorax plus large, plus court et plus arrondi sur les côtés que chez *rufofemoratum*, légèrement arrondi à sa base, déprimé sur le disque, couvert d'une ponctuation grosse, profonde et par place confluyente sur le disque.

Écusson pareil à celui de *rufofemoratum*. Elytres un

peu plus courtes que chez ce dernier, assez fortement, mais étroitement déprimées sur le disque tout près de la base, plus faiblement un peu en arrière des épaules et offrant une double dépression transversale au milieu près de la suture; elles sont garnies de stries analogues à celles de l'espèce voisine, mais plus profondes. Pygidium plus allongé, plus pointu, avec des points plus gros que chez *rufofemoratum*, parfois avec deux taches blanches allongées. Le prosternum est couvert de gros points; le métasternum presque lisse, l'abdomen finement ponctué.

Cuisses très faiblement dentées, les postérieures sensiblement plus courtes que chez *rufofemoratum*, n'atteignant, tout au plus, que la moitié du pygidium, tandis qu'elles sont bien près d'atteindre son extrémité chez l'autre espèce.

Deux individus dans la collection R. Oberthür, marqués: Gabon; treize dans la collection Neervoort van de Poll, également avec l'indication Gabon.

L'examen des *Oxyopisthen* de la collection R. Oberthür m'a permis de voir les types de *O. rufofemoratum* Thoms. et de *O. linea-alba* Thoms., provenant de la collection Mniszech. Cet examen m'a prouvé que l'espèce considérée par Mr. Aurivillius et moi comme *rufofemoratum* Thoms. n'est pas identique. C'est une espèce non encore décrite, publiée ici sous le nom de *O. depressum*. Le véritable *rufofemoratum* Thoms. est décrit de nouveau par Mr. Aurivillius sous le nom de *convexicollis*.

Platyopisthen albopectorale, n. sp.

Long. 13 à 14 mill., rostr. excl. — D'une forme moins large et plus parallèle que *P. suturale* Roel; noir velouté en dessus, avec une ligne blanche, couvert d'un enduit blanc pour la majeure partie en dessous. Rostre un peu plus court que le prothorax et la tête pris ensemble, presque droit (♂), ou un peu plus long et faiblement arqué (♀), lisse. Tête comme les antennes noire, luisante, à peine ponctuée, avec une impression allongée entre les yeux, qui continue sur la base du rostre.

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Prothorax aussi long que large à sa base, faiblement arrondi sur les côtés, graduellement rétréci en avant, couvert d'une ponctuation obsolète sur le disque, presque nulle sur les côtés, la base bisinuée et bordée de blanc; une ligne blanche au milieu part de la base sans atteindre le bord antérieur. Un enduit blanchâtre couvre les côtés du disque, les côtés du prothorax et couvre le prosternum. Ecusson assez grand, cordiforme, blanc.

Elytres isolément arrondies à la base, à peine plus larges aux épaules que le prothorax, environ une fois et deux tiers plus longues que larges, presque parallèles sur leurs côtés, se rétrécissant graduellement et faiblement, en arrière, leur extrémité presque coupé droit; elles ont des stries ponctuées très faibles, qui, à partir de la 7^e strie de la suture, sont encore plus effacées et n'atteignent pas la base. Les élytres ont sur leur fond noir une assez grande tache rouge foncé, peu apparente sur chaque élytre un peu derrière le milieu. L'intervalle entre la suture et la première strie est blanc de l'écusson jusqu'au de la du milieu. Le pygidium est couvert d'un enduit blanchâtre, sa ligne médiane et ses côtés sont un peu élevés.

Le dessous est blanc, sauf le milieu du métasternum et de l'abdomen; le premier, un peu aplatie et finement ponctué chez le mâle, est un peu concave et avec cette partie plus limitée chez la femelle; elle est en outre chez cette dernière garnie d'écailles très courtes, brunes. Cuisses linéaires, les postérieures atteignant le milieu du dernier segment de l'abdomen, elles sont noires, faiblement couvertes de points blancs, jambes noirâtres, avec une rangée de cils très courts sur la tranche intérieure. Le pygidium du ♂ est triangulaire et faiblement déclive, celui de la ♀ plus pointu et un peu relevé à l'extrémité.

Deux individus (♂ et ♀) dans la collection R. Oberthür; le premier avec l'étiquette: ex Mus. Schmidt; le second avec la même indication, celle de: Gabon.

La Haye, Mars 1893.

NOTE XXXI.

DESCRIPTION DU MALE DE L'IPHOTHIMORHINUS
AUSTRALASIAE, Roel.

PAR

W. ROELOFS.

Dans la collection R. Oberthür se trouvent deux individus (♂ et ♀), de cette espèce, dont je ne connaissais que la femelle lors de ma description de l'insecte ¹⁾.

Le mâle diffère assez notablement de l'autre sexe, surtout par la construction du rostre, qui est un peu plus long et n'a pas la forme gibbeuse de celui de la ♀, sa grosseur est plus égale de la base à l'extrémité et présente en dessous un double rang de poils bruns, moins raides que chez certaines espèces du genre *Poteriophorus*; les antennes sont un peu plus distantes de la base, la ligne imprimée sur le devant du rostre est plus forte, il est vaguement ponctué sur les côtés. Le prosternum est enflé devant les hanches antérieures, et vaguement ponctué, le métasternum est largement concave ainsi que le premier segment abdominal et une grande partie du deuxième; l'abdomen et le bout du pygidium sont légèrement pubescents. Les cuisses et les jambes, sauf la base des dernières, sont garnis d'une rangée de poils bruns assez longs.

Le pénis a la forme d'une lame courbée partout de largeur égale et dont les bords sont un peu saillants.

L'unique individu ♂ que j'ai sous les yeux est d'une

1) Notes from the Leyden Museum, Vol. XIV, 1892, p. 207 et suivants.

couleur un peu plus foncée que les femelles que je connais, les taches noires sont plus grandes et le bout des élytres est noir sur une assez grande étendue.

Les individus de la collection Oberthür proviennent de la collection Mniszech, la ♀ porte l'indication: Australie, Endeavour river ¹⁾).

1) Par la tête soulevée du ♂, j'ai pu m'assurer, que les yeux de l'espèce sont assez fortement séparés en-dessous.

La Haye, Mars 1893.

NOTE XXXII.

OBSERVATIONS SUR LES CARACTÈRES
SEXUELS DU GENRE POTERIOPHORUS SCHH.,
ET DESCRIPTION D'UNE ESPÈCE NOUVELLE.

PAR

W. ROELOFS.

Schoenherr, créateur du genre *Poteriophorus*, et les auteurs qui en ont parlé après lui, entre-autres Lacordaire, dans son *Genera des Coléoptères*, VII, p. 290, ont considéré les individus à rostre court, robuste, fortement arqué, et gibbeux à sa base comme des mâles, ceux à rostre plus long, moins robuste et garni de poils ou de tubercules barbus (*vittatus*) en-dessous, comme des femelles. Guidé, par l'examen des deux sexes dans la genre *Iphthimorhinus mihi*, où le mâle possède un rostre de grosseur assez égale dans son parcours et muni de poils en dessous, la femelle un rostre gibbeux et sans poils, j'avais invité mon collègue Mr. van de Poll d'examiner anatomiquement le *P. niveus* Klug, de sa collection; or, son examen a démontré que les auteurs se sont trompés dans l'attribution des sexes. J'ai partagé cette erreur dans mes descriptions de *P. van de Polli* et *P. sellatus*¹⁾. Les individus à rostre pourvu de poils sont des mâles, ceux à rostre gibbeux des femelles. Dans la collection Baden, actuellement propriété de Mr. Neervoort van de Poll, il se trouve des

1) Notes from the Leyden Museum, Vol. XII, p.p. 238, 239 et 240.

Notes from the Leyden Museum, Vol. XV.

P. niveus, provenant de la collection Sommer, où les sexes sont exactement indiqués.

Poteriophorus andamanensis, n. sp. ♀.

Long. 19 mill. rostr. excl. — Très voisin de *P. niveus* Klug; de la même forme générale et de la même couleur que cette espèce.

Tête et rostre comme chez *niveus*; prothorax un peu plus large et plus court, plus brusquement rétréci en avant que chez ce dernier, avec une dépression longitudinale peu profonde en arrière du disque se perdant en avant dans une faible ligne élevée. La ponctuation consiste en points profonds, irrégulièrement disposés, n'ayant pas l'apparence ocelliforme comme chez *niveus*, elle est peu dense sur le disque, plus serrée, très grosse et profonde sur les côtés. Deux bandes latérales noirâtres se voient à la même place que chez *niveus*. Ecusson comme chez lui.

Elytres un peu plus larges et plus courtes, transversalement déprimées derrière la base; les stries des élytres et leurs intervalles sont plus sensiblement ponctués. Prosternum plus court que chez *niveus*, déprimé, mais avec une protubérance contre les hanches antérieures, qui s'avance en pointe entre elles et les sépare légèrement. Métasternum vaguement ponctué au milieu, fortement sur les côtés ainsi que sur le mésosternum; les épisternums métathoraciques sont très grossemment ponctués. Les segments de l'abdomen garnis d'une ponctuation assez fine et serrée, celle du dernier segment plus forte. Pygidium avec des points peu serrés. Cuisses avec des points, irrégulièrement distribués; jambes et tarsi comme chez *niveus*.

Hab. Iles Andamans.

Unique dans la collection Oberthür, provenant de la collection Mniszech.

La Haye, Mars 1893.

NOTE XXXIII.

ON A NEW SPECIES OF APATETICA (STAPHYLINIDÆ)

BY

G. LEWIS, F.L.S.

Last year Dr. Sharp described a species of *Trygæus* in the »Notes from the Leyden Museum'' and made some observations on the probable geographical distribution of the genus, and as I have just obtained another species from Siam, which also requires description, it seems to me appropriate to bring it to notice through the same medium. Although this is the third species only at present described, I believe Mr. Fry has more than one species in a collection which is part of the material lately gathered in the Oriental region by Mr. W. Doherty. When I was in Japan I found *Trygæus princeps* Sh. in April and May by sifting out masses of damp leaves which had accumulated in the forests or been swept together by the caretakers of temple grounds, and sometimes amongst marsh-refuse. But later in the summer single examples were often obtained by beating foliage, and it is perhaps by this latter method that the few specimens brought home by travellers have been taken.

APATETICA Westwood.

(*Trygæus* Sharp, 1874).

Apatetica siamensis, sp. n.

Niger, *nitidus*, *antennis brunneis*; *elytris viridi-nigris*,

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profunde punctato-striatis; pygidio apice bisinuato utrinque angulato, in medio longitudinaliter elevato. — Long. 8 mill.

Black, shining, antennae brownish, sides of the thorax pitchy, elytra greenish black. The head uneven, biangulate before the antennae, being straight anteriorly and oblique at the sides, with a cluster of punctures close to the eye, and a few in the middle of the forehead, eyes rather prominent; antennae rather long and slender, three or four joints pass the thoracic base when they are pressed backwards (that five basal joints are glabrous and the terminal joints pilose seems to be a generic character); the thorax convex in the median area, dilated at the sides, with the marginal rim raised forming anteriorly a lateral canaliculation which widens out and becomes shallow towards the base, lateral rim even and smooth, hind angles well rounded off, punctures on the disc deep and not closely set, but spreading out to the sides they are rather more dense, and become confluent in the lateral channel, the base and a small space behind the middle of the neck are smooth and impunctate; the scutellum, surface smooth, and outline semicircular; the elytra strongly sulcate, each sulcus with a row of evenly set and well-marked punctures, interstices smooth; the pygidium is longitudinally raised in the middle, the apex bisinuous with the lateral angles a little protruding; the tibiae are densely pilose on the inner edge. — This description is drawn from a ♂ example.

This species is much larger than *T. princeps* Sh., the elytra are greenish-black and the antennae relatively longer. In *T. princeps* also the apex of the pygidium is obtusely pointed in both sexes.

Folkestone, 31st March 1893.

NOTE XXXIV.

ON REPTILES FROM NORTH BORNEO,

BY

Dr. Th. W. VAN LIDTH DE JEUDE.

The following list is the catalogue of a collection of reptiles captured by Mr. J. Chr. Prakke in the neighbourhood of the Sandakan-bay (N. Borneo). As Dr. F. Mocquard in his latest papers ¹⁾ on reptiles of Borneo gives a full account of the literature of Bornean herpetology, I think I may content myself with referring to this papers.

*Lacertilia.*1. *Gymnodactylus consobrinus* Ptrs.

One female specimen with regenerated tail. The dark cross-bands and the white interspaces between these are not so regularly arranged as in Peters' figure; moreover they are less numerous, there only being 6 dark bands from the nape to the sacrum.

Two specimens, a male and a female, from Sumatra in our collections, quite agreeing in coloration and pholidosis with the Bornean specimen prove to belong to *Gymnodactylus consobrinus* Ptrs, as the male of this pair has no femoral pores and the prae-analpores in a \wedge without groove between them.

2. *Hemidactylus frenatus* D. et B.

Two specimens.

3. *Draco cornutus* Gthr.

1) Nouvelles Archives du Museum, (3), II, p. 115, 1890. Extrait des Mémoires d. l. Soc. Zoöl. d. France, T.V, p. 190, 1892.

Three specimens.

4. *Draco lineatus* Daud.

One specimen.

5. *Gonyocephalus miotympanum* Gthr.

One specimen.

6. *Gonyocephalus borneensis* Schl.

A specimen broken into pieces, the fragments being perfectly recognizable.

7. *Japalura ornata*, nov. spec.

Body compressed, limbs very long. Fifth toe much longer than first nearly as long as third. An oblique fold in front of the shoulder, the fold of the right side meet that of the left side below the throat thus forming a gular fold. All the scales keeled, the dorsals heterogeneous. Our specimen is a female and shows a series of strongly keeled scales on the nape, indicating the presence of a nuchal crest in the male. Farther on the back this series is not so conspicuous. Snout nearly as long as the diameter of the orbit, with a rounded canthus rostralis. A small, conical rostral appendage, which in our specimen is not erected but lying backwards, on the upper part of the head; this rostral appendage measuring 2,5 m.m., with small imbricate scales. Upper and lower labials seven.

As our specimen is not in a very well preserved state I cannot well describe the coloration. The ground colour is a brownish red with small light coloured spots below the eyes. It measures 5,7 cm. from the tip of the snout till the anal opening, and had in its oviducts two ripe eggs, one on each side. These eggs of an oval form are very large in proportion to the dimensions of the animal itself, being 1,5 cm. by 0,7 cm.

I have long hesitated in which genus I had this lizard to class, seeing that it has points of resemblance in common with *Otocryptis* and *Aphaniotis* as well as with *Ceratophora* and *Japalura* and at length fixed on the last mentioned genus lead by the unmistakable presence of an oblique fold in front of the shoulder.

8. *Calotes cristatellus* Kuhl.

Five specimens.

9. *Mabuia multifasciata* Kuhl.

One specimen.

10. *Lygosoma smaragdinum* Less.

A very young specimen.

11. *Lygosoma olivaceum* Gray.

A young specimen.

12. *Lygosoma vittatum* Edeling.

One adult specimen. Three specimens collected in 1845 by Dr. Schwaner were then recognised as belonging to a new species and preserved in our collection under the name of *Scincus Schwaneri*. The description of this *Sc. Schwaneri* was however, as far as I know of, never given.

*Ophidia.*13. *Python reticulatus* Schneid.

Two half-grown specimens.

14. *Calamaria Prakkei*, nov. spec.

Scales in 13 rows. Five upper labials, the third and fourth entering the orbit. The first pair of lower labials not forming a suture behind the mental shield. No azygos shield between the chin-shields. One post- and one praeocular. Ventrals 144—126, an undivided anal-shield, subcaudals $\frac{30-25}{2}$.

As to the pholidosis of the head, this species very much resembles *Calamaria lumbricoidea* as well as *C. Grabowskyi* and *C. Temminckii*, but differs widely from these species in the number of the ventral shields, *C. lumbricoidea* having 217—190 ventrals, *C. Grabowskyi* 186 à 185 and *C. Temminckii* with 187 ventral shields.

I give here the number of ventrals and caudals with the measurements of the six specimens:

- a. 127—1— $\frac{3.0}{2}$, total length 18 cm., length of tail $2\frac{3}{4}$ cm.,
 b. 126—1— $\frac{3.0}{2}$, » » 24 cm., » » » $4\frac{1}{4}$ cm.,
 c. 130—1— $\frac{3.1}{2}$, » » 26 cm., » » » 4 cm.,

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- d.* 131—1— $\frac{30}{2}$, total length 24 cm., length of tail 4 cm.,
e. 141—1— $\frac{25}{2}$, » » 26 cm., » » » $2\frac{3}{4}$ cm.,
f. 144—1— $\frac{27}{2}$, » » 23 $\frac{1}{2}$ cm., » » » $2\frac{1}{2}$ cm.

Though the six specimens forming this series slightly differ among themselves, they still agree in so many respects, that they must be taken to belong to the same species. The above-mentioned slight points of difference, to which I shall refer when describing the species more fully, throw a peculiar light on the value of such qualities as are often taken for specific differences in the identification of the species.

Rostral as high as broad, clearly visible from above, frontal hexagonal, its length nearly $1\frac{1}{2}$ times as great as its breadth, shorter than the parietalia, its anterior angle obtuse, its posterior angle acute (in specimen *c* the posterior angle also is obtuse, whilst the length of its frontal exceeds its breadth only very little). One praeocular and one postocular. Five upper labials, the third and the fourth entering the eye, the fifth largest, the first smallest (except in specimen *a* where the first upper labial is at least as large as the second one). The mental in contact with the anterior chin-shields. No azygos shield between the 4 chin-shields. Tail short, though not so short as in *C. lumbricoidea*, the tip of the tail obtuse with a conical scale at the end.

Upper parts dark brown with a strongly pronounced glossy bluish shine. A light coloured beaded coloration on both sides along the belly down to the anal shield. This coloration is formed by the presence of a light spot on the scales of the outer row, and of a dark spot on either side in the outer angle of the ventrals.

In specimen *e* this beaded coloration begins immediately behind the head, in the 5 other specimens the scales of the outer row just behind the head are quite white, so that the row of beads is interrupted on that place; in the specimens *a*, *d* and *f* this beaded coloration appears close behind the head on the second row of scales, a light spot

presenting itself on those scales, this coloration extends itself over a length of 20 à 30 scales growing less and less clear in proportion as the scales advance to the tail. It is remarkable that in specimen *f* many scales on the upper part of the body have an accumulation of dark pigment in their centre, this giving rise to an indication of dark longitudinal stripes and so forming an approach to the coloration of *C. Gervaisi*. In the other specimens also, in some parts of the body the presence of a dark centre in some of the scales is more or less prominent. The four anterior upper labials yellowish white, the fifth on its fore and under part yellowish white, behind and above dark brown, the margins between the upper labials are indicated by brown lines. The lower labials yellow, also separated from another by a dark line. Chin-shields yellow, the anterior pair with a dark spot on the anterior part. This coloration of upper and lower labials and chin-shields is in specimen *a* only slightly indicated. In some specimens especially in specimen *f* may be found an indication of a light collar. Ventrals yellow without dark lines between them, and with a little dark spot on each side in the outer angle (in the specimens *e* and *f* on some of the ventrals small dark spots). A dark line running along the middle of the tail, subcaudals yellowish, the hindmost with dark lines on the margins between them, which lines together with the dark line along the middle, give rise to a feather-shaped coloration at the end of the tail. In specimen *a*, which, on account of its inferior size and other points of difference, I take to be a young one, neither the dark line along the middle of the tail nor the dark margins between the hindmost subcaudals are to be seen.

15. *Simotes octolineatus* Schneid.

A half-grown specimen.

16. *Simotes spec?*

A very young specimen.

17. *Composoma melanurum* Schl.

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One specimen.

18. *Tropidonotus trianguligerus* Boie.

Three specimens.

19. *Tropidonotus conspicillatus* Gthr.

One specimen with 146 ventrals, a divided anal and 52 pairs of caudals. A brown band behind the eye, bordered above with a yellow band, which runs from the eye to the angle of the mouth, and with a yellow band which runs below the eye from the tip of the snout to the posterior part of the sixth upper labial.

20. *Amphiesma chrysargum* Boie.

Two specimens.

21. *Cerberus rhynchops* Schneid.

Two specimens.

22. *Homalophis Doriae* Ptrs.

One adult female specimen.

23. *Gonyosoma oxycephalum* Boie.

Four specimens.

24. *Leptophis formosus* Boie.

One specimen.

25. *Dendrophis pictus* Gmelin.

Three specimens.

26. *Dendrophis caudolineatus* Gray.

One young specimen.

27. *Dryophis prasinus* Boie.

Six specimens.

28. *Psammodynastes pictus* Gthr.

One adult and one young specimen.

29. *Amblycephalus boa* Boie.

One specimen.

30. *Dipsas dendrophila* Reinwardt.

Two specimens.

31. *Dipsas boops* Gthr.

Two specimens measuring 57 cm. and 85 cm.

In the collections of our Museum a specimen of this snake, measuring 80 cm. and captured in the island of Java by S. Müller is labelled *Dipsas puella*. Prof. Schle-

gel recognized it as being a new species, but to my knowledge never gave a description of it.

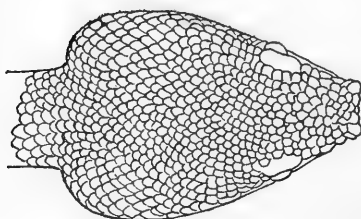
32. *Adeniophis intestinalis* Laur.

One specimen measuring 28,5 cm. and belonging to the variety described by Duméril and Bibron as *Elaps trilineatus*.

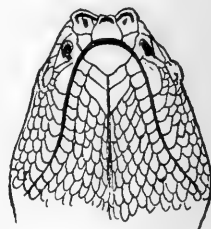
33. *Bothrops sandakanensis*, nov. spec.

Supraciliary shield single, upper labials 11, second undivided forming front part of the facial pit, third largest not reaching the ring of scales under the eye, hinder one smallest. Scales in 21 rows. Dark brown, belly yellow with dark vermiculations. Tail darker than body with three or four lighter spots on the upper part. Rostral with a broad yellow vertical stripe.

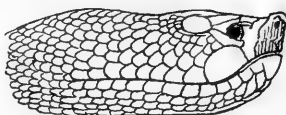
Head of *Bothrops sandakanensis*.



seen from above.



seen from below.



side-view.

Two specimens very closely agreeing with the specimen *b* from Solok, which was described as *Atropophis borneensis* Ptrs. by F. Müller ¹⁾, but differing from that specimen in having a larger supraciliary that entirely covers the eye.

1) Verhandl. d. naturf. Gesellsch. in Basel, 1887, p. 282.

Number of scales $160-1-\frac{5.3}{2}$ and $155-1-\frac{4.5}{2}$.

In all points, except in the form of the supraciliary and the dimensions of the second and the third upper labial, this species agrees so much with *Atropos puniceus* and *Atropophis borneensis* that it is unadvisable to class them under 2 different genera; and I think that as Wagler's genus *Atropos* ($=$ *Atropophis* Ptrs.) is principally founded upon the presence of an arched series of supraciliary scales, failing in this new Bornean species, that genus cannot be maintained.

Batrachia.

34. *Rana macrodon* Kuhl.

Two specimens.

35. *Rana tigrina* Daud.

One specimen.

36. *Rhacophorus pardalis* Gthr.

Two specimens.

Leyden Museum, April 1893.

NOTE XXXV.

ON TWO NEW SPECIES OF THE GENUS GERYGONE,

BY

J. BÜTTIKOFER.

Amongst the specimens of the genus *Gerygone*, under which I comprise the genus *Pseudogerygone*, the Leyden Museum contains two apparently new species, one represented by a single specimen from Little Key, the other by two specimens from Aru. All three are collected by von Rosenberg.

1. *Gerygone keyensis*.

General color above olive-brown, with a shade of fulvous on back, rump and upper tail-coverts; quills dark brown, edged with olive-green, the innermost and the wing-coverts with the color of the back, tail fulvous with a broad subterminal black cross-bar, lores brown with a narrow whitish spot above them, ear-covert fulvous; under surface white with a tinge of yellow, the feathers being black at the base, white in the middle and yellow at the tip. This color of the under surface might indicate an immature stage of the bird, as there is a brown tinge coming up on breast and flanks, and Salvadori mentions a young *G. brunneipectus* with yellowish white under surface. Under wing-coverts dirty whitish, edge of wing yellow, thighs fulvous. Bill brown, feet dark gray. Wing 5,4 cM.; tail 3,7; tarsus 1,9; culmen 1,2.

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This bird might pass for a young stage of *G. brunneipectus* (Sharpe), but when comparing it with our numerous specimens of this species, I found the bill of the new bird longer and much narrower, rendering the bird sufficiently distinct from its allies, even if it afterwards might turn out to be a young stage and that the adult might resemble *G. brunneipectus* from Aru.

A single specimen, collected by von Rosenberg (N^o. 1346 of his original list) on Little Key Island.

2. *Gerygone aruensis*.

This species is closely allied with *G. chrysogaster* Gray, from which it is easily distinguished by its smaller bill, the purer ashy gray head, the much paler, more yellowish (not olive-green) upper surface and its shorter wing and tail. Top and sides of head and hind neck pale ashy gray, rest of upper surface, including the broad outer edgings of quills and upper wing-coverts yellowish green without any tinge of olive-brown, tail-feathers brown, on the outer web narrowly fringed with the color of the back, and provided with a black subterminal bar; lores and ear-coverts slightly tinged with brown; chin, cheeks, throat, centre of chest, breast, abdomen and under tail-coverts white; sides of breast, flanks and under wing-coverts yellow, thighs brownish gray; inner edge of quills from underneath whitish ash-color; bill and feet black.

The following are the comparative measurements of the two allied species:

G. chrysogaster: wing 5—5,5 cm; tail 3,8—4,3; tarsus 1,6; culmen 1,2.

G. aruensis: wing 4,7 cm.; tail 3,0; tarsus 1,4; culmen 1,0.

Two males collected by von Rosenberg (N^{os} 662 and 816 of his original list) on the Aru Islands.

Leyden Museum, April 1893.

NOTE XXXVI.

ON TWO NEW SPECIES OF BIRDS FROM JAVA
AND CELEBES,

BY

J. BÜTTIKOFER.

Amongst a number of very valuable birds from the East-Indian Archipelago, lately presented to the Leyden Museum by Dr. A. G. Vorderman, I found a specimen which proofs to belong to a new species of *Cryptolopha* and which I propose to name after its discoverer, the meritorious ornithologist of the Malay Archipelago:

Cryptolopha Vordermani.

Very closely allied to *C. Schwaneri* (Blyth) from Borneo, but differing from the latter in having only the anterior half of the crown olive-gray instead of the whole crown.

Above lively yellowish green, somewhat yellower on rump and upper tail-coverts, hind neck, nape and posterior half of the crown like the back, in contrast with the anterior half, which is gray; quills and wing-coverts earthy brown, the latter and the secondaries edged with the color of the back; tail brown, the outer webs edged with olive-green, especially on the basal half, the inner webs edged with fawn, sides of face and ear-coverts gray like the fore-head, lores black, a white superciliary streak, running from the nostrils above the eye, rather more developed than in *C. Schwaneri*, chin and throat pure white, rest of under surface bright yel-

low, centre of abdomen and under wing-coverts whitish, inner edge of quills fawn-color, thighs brown. Bill black, base of lower mandible whitish, feet pale flesh-color.

In size this species does not differ from *C. Schwaneri*. Wing 5,1 cm.; tail 4; tarsus 1,8; culmen 1,1.

Hab. East Java.

A second specimen, also from Java, making part of the collection of the Leyden Museum since about fifty years, must be referred to this species. The more olive tinge of the upper surface is probably due to the influence of light.

Turdinus castaneus.

Adult female: whole upper surface, including wing-coverts, outer web of quills and the tail chestnut-brown, forehead and crown considerably much darker, a white superciliary streak running from the nostrils above the eye; lores brown, ear-coverts gray with white shaft-streaks; sides of face, chin and throat whitish, the feathers edged and tipped with ashy gray, which color becomes predominant on the chest, especially on the sides of the latter, centre of breast and abdomen white; flanks, vent, under tail-coverts, under wing-coverts and thighs somewhat paler brown than the back. Bill black, feet pale brown.

This species differs from *T. celebensis* by its much smaller size and dark chestnut upper surface.

Wing 5,6 cm.; tail 5,2; tarsus 2,2.

The single specimen is collected by Mr. von Rosenberg (N^o 513 of his original list) in the Minahassa, North Celebes, on the 9th of September 1874.

Leyden Museum, April 1893.

NOTE XXXVII.

ON SOME MAMMALS FROM CAHAMA,

BY

Dr. F. A. JENTINK.

April 1893.

(Plates 4, 5 and 6).

The other day we received some Mammals and Birds from Cahama, collected by Mr. C. E. v. d. Kellen, a brother of Mr. P. J. v. d. Kellen, the well known zoologist of the Veth-expedition on the Cunene-river (see N. L. M. 1887, p. 171). Cahama is a locality on the Kaku-
 lovar-river, a nothern branch of the Cunene. Although very small in number, there are among the Mammals some which bear a peculiar interest in view of geographical distribution.

Cercopithecus cynosurus Scopoli.

Schlegel said in 1876 (Catalogue, Simiae, p. 73): »On ignore la patrie du *C. cynosurus*; mais tout porte à croire qu'il habite la Sénégambie, d'où on en apporte au dire des marchands, des individus vivants en Europe. Quoi-
 qu'il en soit nous ne croyons pas qu'il ait jamais été observé à l'état sauvage."

De Rochebrune remarks (Faune de la Sénégambie, p. 80): »*Cynocephalus cynosurus* peu commun. Vit par petites troupes; provient de Bafoulabé, Medine, Brakel. Les Peuls, à l'approche de la traite, en apportent quelquefois de jeunes; l'espèce remonte donc plus haut vers l'Ouest, dans les forêts du Fouta."

As Mr. de Rochebrune's statements are not always to

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trust (see f. i. Reuvens' *die Myoxidae oder Schläfer*, 1890, p. 35), I do not set much value upon his observations concerning our monkey and I think it wise to accept them only under protest. So that we are as far as in 1876 and know nothing about the locality where *C. cynosurus* is living. It therefore is of great scientific value to know that v. d. Kellen collected (August 23, 1891) a nearly adult male-specimen, agreeing exactly with the other individuals of this very characteristic species in our collection. Senegambia may be the habitat too of it or not, we have here the *proof* that it inhabits South-West-Africa¹. The skull of this specimen is figured on plate 4.

Iris lightbrown (v. d. Kellen MS.).

Vulpes mesomelas Schreber.

One specimen.

According to Mivart's Monograph of the *Canidae*, 1890, p. 47, the habitat of this very strongly marked black-backed Jackal is Southern Africa and Abyssinia. A figure of the skull of v. d. Kellen's adult specimen on plate 5.

Genetta felina Thunberg.

An adult female-specimen, March 20, 1891. Iris brown (v. d. Kellen MS.).

Skull of this specimen on plate 6.

Ratelus leuconotus Sclater.

A single apparently adult specimen, without skull.

The type of this very rare species has been described and figured by Sclater (P. Z. S. L. 1867, p. 98, pl. 8): it had been obtained by the Zoological Society on 3rd August 1866 from a dealer in Liverpool, who stated that he had received it by the West-African Mail. It therefore

1) In the Catalogue of the bones of Mammalia in the collection of the British Museum, 1862, p. 11, there are enumerated two skulls (*a* and *b*) as belonging to *C. cynosurus* from India. This cannot be correct.

probably came from the coast of West-Africa, but the exact locality was unknown.

I am not aware if Mr. de Rochebrune has brought over to Paris a specimen of this species, which he states (l. c. p. 144) to have had living in his possession and which is according to him living in Senegambia as well as *Mellivora ratel* Gray (*Ratelus capensis* Schreber).

The named author remarks: »le *M. ratel*, de même que le *M. leuconota*, est très recherché par les Nègres des contrées où se rencontrent ces animaux; leurs organes génitaux coupés et desséchés, connus sous le nom de *Getala*, sont suspendus aux colliers en graines d'*Abelmoschus* portés, le plus ordinairement, par les jeunes Pouls; des lambeaux de peau sont aussi attachés aux colliers des Bambaras et des Ouoloves. Le *M. leuconota* se rencontre dans les mêmes régions que le *M. ratel*, Gandiole, tout le Cayor et le Oualo; environs de Sorres, île de Thionk, Dakar-Bango, etc.; remonte dans la région du haute fleuve; Podor, Dagana, Saldé; tout le Felou et une partie du Fouta-Djalou. Le *M. leuconota* se distingue (du *M. ratel*) par une taille plus petite, et toute la partie supérieure du corps et de la tête, qui sont d'un blanc pur. Nous avons possédé longtemps en captivité un individu de cette espèce; pendant le jour, il restait enroulé au fond de sa cage; aussitôt la nuit venue, il se livrait à des mouvements désordonnés, en poussant des grognements assez forts; d'une voracité extrême; il consommait des quantités relativement considérables de viande, cachant sous le sable les morceaux qu'il ne pouvait plus avaler; il avait soin de déposer ses excréments dans un coin de sa cage, toujours de même, et de les recouvrir, en grattant le sable avec les pattes de devant, de la même façon que les chats".

It is a pity that neither Sclater nor de Rochebrune gave more details concerning the length of the animal, its skull a. s. o., so that, as our specimen is without a skull, I merely suppose that it will be an adult one, because the legs are in harmony with the rest of the body, but

I cannot be *sure* of it. Here follow some measurements taken from the *flat* skin:

length of head and body . . .	48	Cm.
» » tail with tuft	12	»
» » » without tuft . .	9.5	»
» » forefoot with claws .	14	»
» » hindfoot » » . .	8	»

Aulacodus swinderianus Temminck.

A young specimen.

Sciurus congicus Kuhl.

Four skins of adult specimens.

Phacochoerus aethiopicus Pallas.

Two skulls.

Grimmia mergens Blainville.

One adult skull.

Pediotragus tragulus Forster.

Two skulls of male and female specimens.

NOTE XXXVIII.

NOTES ON THE RAILS OF THE LEYDEN MUSEUM,

BY

R. BOWDLER SHARPE, LL. D.

May 1893.

During my visit to Leyden in April of the present year, I had the pleasure of examining carefully the collection of *Rallidae* as it had been arranged by the late Professor Schlegel in the year 1865 (cf. Cat. Mus. Pays-Bas, Vol. V, pp. 1—79). The following notes, which form a small commentary on Schlegel's Catalogue, may be of some use to future workers on the *Rallidae*.

Rallus longirostris.

Rallus longirostris Bodd.: Sharpe, Cat. B. Brit. Mus. XXIII, p. 10.

On p. 12 of Schlegel's 'Catalogue' four specimens are enumerated under the above name. The true *R. longirostris* is from Guiana, and the only specimen is n^o. 3, an adult bird from Cayenne. N^o. 1 from New Jersey is *Rallus crepitans*, Gm. N^o. 4 from »Brazil" is *Rallus elegans*, Aud. and the locality is certainly erroneous.

N^o. 2 an adult female bird from Surinam is a very curious and interesting specimen, and appears to be *Rallus caribseus* of Ridgway (Cf. Cat. B. XXIII, p. 13). It differs from true *Rallus longirostris* in being nearly uniform above, in having very light ashy flanks with narrow white bars, and in being ashy on the breast and neck instead of light tawny-colour. From true *R. crepitans* it does not differ so much, but is more uniform above and has lighter flanks,

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but the colour of the breast is about the same. The lateral under tail-coverts are almost entirely white, with very large terminal spots of brown, the median under tail-coverts being barred with white and brown.

These are the notes which I made without having a series of specimens for comparison, but whichever the race here described may turn out to be, it is certainly an extension of range to the southward of one of the West Indian forms.

Limnopardalus sanguinolentus.

Limnopardalus sanguinolentus (Swains.): Sharpe, Cat. B. Brit. Mus. XXIII, p. 30.

A young bird from Santiago differs from the adult in being browner, with a shorter bill, and having whitish cheeks and throat. The under surface is ashy grey, overshadowed with brown; under tail-coverts isabelline brown with black centres.

Limnopardalus nigricans.

Limnopardalus nigricans (V.); Sharpe, t. c. p. 31.

The range of this species extends from Southern Brazil to Peru and north to Colombia. I find a specimen in the Museum from Surinam.

Hypotaenidia striata.

Hypotaenidia striata (L.): Sharpe, t. c. p. 33.

In my remarks upon *Rallus jouaji*, Stejneger, I have endeavoured to show that the characters put forward by Dr. Stejneger were not sufficiently born out by our series in the British Museum. I have, therefore, carefully examined the series in the Leyden Museum, and find my conclusions confirmed.

Specimens »with white bars and white spots on the primary-coverts well developed" are in the collection from Java, Sumatra, Cochin China and China and specimens with few spots »are from Java, Sumatra, and Luçon."

A specimen »with no spot" is in this collection from Java.

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Hypotaenidia celebensis.

Hypotaenidia celebensis (Q. et G.): Sharpe, t. c. p. 45.

The Leyden Museum contains a large series of this species, almost exclusively from Northern Celebes, viz. from Minahassa, Gorontalo and Pagoeat. Several of these are young birds and they invariably show a great deal of white on the throat, but some of the old individuals have the throat almost entirely black. In nearly every specimen the wing-coverts bare a faint indication of reddish bars, and in the young birds the wing-coverts are plentifully, though obscurely, barred with black and rufous, and the quills and tail-feathers are very distinctly banded with rufous. Young birds are all much more plentifully, though obscurely, barred with black and rufous, and the quills and tail-feathers are very distinctly banded with rufous. Young birds are all much more plentifully barred underneath than the old ones, and the flanks and under tail-coverts are also banded with rusty.

Hypotaenidia Jentinki, sp. n.

This is an interesting form of Rail of the group of *H. celebensis* and *H. saturata*. Like the latter bird it has an intensely black throat, but it is easily distinguished by its rufous, instead of olive, brown colour on the back and wings. This rufous colour also separates the species from *H. celebensis* and in addition it has the centre of the head blackish brown, and the lores, ear-coverts and sides of crown, jet black. Total length 11.0 inches, culmen 1.7, wing 6.1, tail 2.3, tarsus 2.15, middle toe and claw 2.15.

Hab. Island of Sula Mangola.

Ocydromus australis.

Nº 1 is of the *O. Earli* group — marked by Finsch '*Ocydromus nova* sp.,' much lighter grey than *O. Earli*, and much paler above, but it has none of the colour of *O. australis*.

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Rallina fasciata, Schl. Mus. Pays-Bas, Ralli, p. 19.

Spec. 5. »dans la livrée de passage, variété à remiges sans bandes blanches" is really *Limnobaenus Paykulli*.

Crex dimidiata, Schl. Cat. Ralli, p. 27.

N° 6 is the female of *Corethrura elegans*.

Porzana intermedia.

Porzana intermedia (Herm.): Sharpe, t. c. p. 103.

Further examination and a larger series of specimens will be necessary before the exact eastern range of Baillon's crake can be determined. In the Leyden Museum there is an undoubted specimen of the true *P. intermedia* from Lake Baikal, where *P. pusilla* might have been expected.

Porzana tabuensis.

Porzana tabuensis (Gm.): Sharpe, Cat. B. XXIII, p. 111.

This species varies greatly in dimensions, but I cannot see any constant characters by which any races could be distinguished. Nos. 1 and 2 of Schlegel's Catalogue (p. 36) have the wing 3.4 inches, and the tarsus 1.0—1.15. N° 3 from West Australia has the wing 3.5 and the tarsus 1.2, while specimens from Viti Levu and the Philippines (N° 4) have the wing 3.0 and the tarsus 0.95—1.0.

Pennula sandwichensis.

The typical specimen of this bird in the Leyden Museum has shown me, that I was in error, in uniting it to *P. ecaudata*. It has a streaked upper surface, very different from the uniform back of *P. ecaudata*.

Corethrura pulchra.

Corethrura pulchra (J. E. Gray); Sharpe, t. c. p. 116.

A young bird in changing plumage is very interesting. It has the rufous head and chest of the adult, but the centre of the fore-neck and the rest of the under surface are light brown, with a few freshly moulted white-spotted feathers interspersed.

Creciscus jamaicensis.

Creciscus jamaicensis (Gm.); Sharpe, t. c. p. 135.

A specimen is in the collection from Bogotà.

Limnobaenus marginalis.

Porzana marginalis, Hartl. Orn. W. Afr. p. 241.

Crex suahalensis, Tristr. P. Z. S. 1882, p. 93.

The type of Canon Tristrams bird would appear to be a young one, as the adult female in the Leyden Museum has a grey head and neck, and the lower throat, fore neck and sides of body are also ashy grey slightly mottled with whitish edgings to the feathers; throat and centre of breast pure white; lower flanks, vent, and under tail coverts cinnamon coloured. Wing 4.05: tarsus 1.3.

The young bird in the Leyden Museum is browner above, and brown on the head, the sides of the face light rufous, throat and abdomen whitish, the lower throat, chest, and sides of body very pale rufous with a few white streaks on the flanks, the under tail-coverts and lower flanks very pale tawny.

Porzana Schomburgki, Schl. Cat. Ralli, p. 37.

The specimens attributed to this species by Schlegel are really *Neocrex erythrops* (Scl.), as surmised by Selater and Salvin (P. Z. S. 1868, p. 457).

Gallinula Franki, Schl. Notes Leyden Mus. I,
p. 163 (1879).

I have examined the type of this species in the Museum, and I am not quite convinced that Count Salvadori is right in uniting it to *Amaurornis moluccana*. Its colour is chocolate brown above and below, with the breast and abdomen dark ashy, and the throat dark ashy grey.

CONGRÈS INTERNATIONAL DE ZOOLOGIE

Le Comité permanent vient de se constituer ainsi qu'il suit :

Président: M. MILNE-EDWARDS (Paris).
 Vice-présidents: $\left\{ \begin{array}{l} \text{M. JENTINK (Leide).} \\ \text{M. le comte KAPNIST (Moscou).} \\ \text{M. TH. STUDER (Berne).} \\ \text{M. L. VAILLANT (Paris).} \end{array} \right.$
 Secrétaire général: M. R. BLANCHARD (Paris).
 Secrétaire: M. le baron J. DE GUERNE (Paris).

Le Comité permanent propose la question suivante pour le prix de S. A. I. le Tsarévitch, qui sera décerné en 1895, au Congrès de Leide :

Etude de la faune d'une des grandes régions du globe et relations de cette faune avec les faunes voisines.

Le jury acceptera des travaux portant soit sur un Embranchement, soit sur une Classe du Règne animal.

Les travaux, manuscrits ou imprimés depuis le dernier Congrès, devront être écrits en français et envoyés *avant le 1^{er} mai* 1895 à M. le Président du Comité permanent, au siège de la Société Zoologique de France, 7, rue des Grands-Augustins, à Paris.

Les mémoires présentés seront soumis à l'examen d'une Commission ainsi constituée :

MM. MILNE-EDWARDS (Paris), Président, R. BLANCHARD (Paris), Secrétaire général, A. BOGDANOV (Moscou), JENTINK (Leide), R. B. SHARPE (Londres), TH. STUDER (Berne) et N. ZOGRAP (Moscou).

Prix décerné par la Société Impériale des amis des sciences naturelles de Moscou en mémoire des Congrès internationaux de 1892 et en l'honneur de S. A. I. le Grand-Duc héritier Césarévitch Nicolas Alexandrovitch.

RÈGLEMENT.

ARTICLE 1^{er}. — Le Comité d'organisation des Congrès internationaux d'anthropologie et d'archéologie préhistori-

que, et de zoologie, réunis à Moscou en 1892, remet à la Société Impériale des amis des sciences naturelles la somme de 2000 roubles argent, pour constituer un capital perpétuel en souvenir du Congrès de zoologie et de l'auguste bienveillance qui lui a été accordée par S. A. I. le Grand-Duc héritier Nicolas Alexandrovitch.

ARTICLE 2. — Les intérêts de ce capital seront affectés à la création d'un prix en l'honneur de S. A. I. le Grand-Duc héritier Césarévitch Nicolas Alexandrovitch. Ce prix sera attribué au Congrès de zoologie.

ARTICLE 3. — La quotité du prix est égale au revenu du capital pendant deux ans. Au cas où il s'écoulerait plus de deux années entre deux Congrès consécutifs, les intérêts des années supplémentaires resteront à la disposition de la Société des amis des sciences naturelles de Moscou, qui les consacrera à des prix décernés dans sa séance annuelle du 15 octobre.

ARTICLE 4. — Si le Congrès cesse d'exister, la part qui lui revient d'après les articles ci-dessus sera attribuée à la Société Impériale des amis des sciences naturelles, qui la consacrera également à des prix distribués dans sa séance annuelle.

ARTICLE 5. — Le prix décerné par le Congrès de zoologie est décerné par une Commission spéciale nommée à cet effet par le Conseil permanent de ce Congrès.

ARTICLE 6. — Les prix peuvent consister en médailles ou en sommes d'argent.

ARTICLE 7. — Ils seront décernés en séance solennelle, pendant la session du Congrès.

ARTICLE 8. — Le programme des prix sera élaboré par le Conseil permanent du Congrès.

ARTICLE 9. — Ce Conseil permanent est en outre chargé de centraliser les travaux présentés, de désigner les savants ou les commissions à l'examen desquels ils seront soumis et qui devront déposer un rapport écrit.

ARTICLE 10. — Tout savant est admis au concours, à la condition qu'il n'appartienne pas un pays dans lequel doit avoir lieu la prochaine session du Congrès ¹⁾.

ARTICLE 11. — Le président du Congrès notifie immédiatement au président de la Société Impériale des amis des sciences naturelles le nom de la personne à laquelle le prix a été décerné.

1) Le prochain Congrès aura lieu à Leyde en août 1895; les savants hollandais sont donc exclus du prochain concours.

NOTE XXXIX.

DESCRIPTION OF A NEW GENUS OF CRAKES.

BY

J. BÜTTIKOFER.

The Leyden Museum has possessed for some years in its bird-gallery a specimen of a Rail which was determined by the late Professor Schlegel to be the young of *Rallus maculatus*. The individual in question purchased of Mr. Frank in 1865. During his recent visit to our Museum, my friend Dr. Bowdler Sharpe pointed out that instead of being a Rail, it was a Crake, and belonged to a section of genera which embraced *Crecopsis*, *Castanolimnas* and *Crex*. He very kindly took the specimen to London with him, and compared it for me with all the neighbouring genera, some of which are not represented in our Museum. As it does not agree with any of the known genera, it seems to represent a new genus, which I propose to call.

Stictolimnas gen. nov.

Differt a genere *Castanolimnas* dicto ala minus rotundata, remige secunda et tertia aequalibus; a genere *Crecopsis* dicto rectricibus decompositis et remigibus aliter dispositis. Typus est

Stictolimnas Sharpei n. sp.

Mantle, scapulars, back, rump, upper tail-coverts and tail brownish black, the on mantle and scapulars margined

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with olive-brown and provided with one or two pairs of irregular white spots near the lateral edge. These spots are enlarged to rather long, white lateral stripes on each edge of the tail-feathers. Quills and upper wing-coverts somewhat paler than back, the latter with broader and paler olive-brown or rather ochre edgings and tips and very irregularly dotted with white spots similar to those on the scapulars. Quills provided with five, seldom with only four, rather broad white bars on the inner web and with the same number of white, bar-like large spots on the outer, flowing together to a longitudinal white stripe on the outer web of the two or three outermost primaries. Crown and hind-neck brownish gray with dark centres on the feathers, lores and eyelids whitish, cheeks, ear-coverts and sides of neck slaty gray, chin, throat, a streak behind the eye and thighs ashy gray, centre of chest, breast, abdomen and under tail-coverts brownish gray, sides of chest, breast and flanks of the same color as the mantle, each feather broadly margined with olive-brown, those on the sides of chest and breast with one, those on the flanks with two pairs of lateral white spots. Under wing-coverts olive-brown, centre black, richly spotted or barred with white, edge of wing pale fulvous. Bill and feet red. Wing 14 cM., tail 6,5, tarsus 3,8, culmen 2,5. Hab. South America.

Leyden Museum, July 1893.

NOTE XL.

DESCRIPTION OF A NEW SPECIES OF DOLIUM.

BY

M. M. SCHEPMAN.

Dolium pictum, n. sp.

Shell ovate, inflated, rather solid, narrowly umbilicated, with an elevated spire; whorls $5\frac{1}{2}$, convex, with spiral ribs and concentric hairlike striae. There are about 23 ribs on the last whorl; the 3 uppermost of them are narrow, the other ones rather flat and broader, with narrow interstices, in each of which runs an intermediate lira. Nucleus apparently smooth; aperture oblong, its right margin thickened by an internal rib. Interior of aperture pale yellowish-brown with two other ribs (former lips) and grooves corresponding to the external ribs. Columella straight, with a small white callus, partly covering the umbilicus. Externally this shell is brown, variegated with white; moreover numerous brown spots accompanied by white ones, adorn the last half of the ultimate whorl; on the apertural side, the brown and white forms irregular streaks. Nucleus with a brownish band along the suture.

Alt. 56, diam. 43; apert. alt. 44, lat. 21 mill.

Loc. New Holland? (from the cabinet of Mr. Raye).

This species agrees in many respects with the description of *D. Dunkeri* Hanley (Proc. Zool. Soc. Lond. 1859, p. 431), but that shell according to Mr. E. A. Smith, who compared our specimen with the type in the British Museum,

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is smaller and more solid, with a thickened callus on the columella and strong lirae within the outer lip; moreover *D. Dunkeri* has only 2 or 3 intermediate lirae in the grooves between the upper ribs. *D. variegatum* Lam. has a less number of ribs, with only a few intermediate lirae, and is of a quite different painting.

Rhoon, near Rotterdam, September 1893.

NOTE XLI.

ON A COLLECTION OF BATS FROM THE
WEST-INDIES.

BY

Dr. F. A. JENTINK.

September 1893.

The collection of Bats hereafter described has been presented to the Leyden Museum by our well known correspondent Dr. C. G. Young from Berbice, New Amsterdam, British Guyana.

This collection tells us that, although our knowledge about the Bats may have increased during the latest years, much remains to be done before we can pretend to know exactly these most interesting creatures: especially the study of the South-American Bats is very difficult by lack of sufficient material. Therefore every addition may be called welcome.

The specimens contained in this collection have been preserved in alcohol and are all in perfect condition; they are eighty in number and belong to seventeen species, among which several rare and interesting ones and one new species.

Atalapha intermedia Allen.

Two female-specimens.

In comparing our specimens with the specimen described and the head figured by Dobson (Catalogue, 1878, p. 274, pl. XVI, fig. 3) we find an important difference in

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the relative measurements and especially in the shape of the lobular projection of the outer margin of the ear. From Allen's Monograph of the Bats of North America, 1864, p. 25, however we learn that the very dimensions are rather varying — length of tail from 2 till 2.7, length of forearm from 1.9 till 2.2 inches a. s. o. — meanwhile Allen's figures 21 and 22 represent the *rounded* form of the named lobular projection much better than Dobson's figure of the same part. So I do not hesitate to bring our specimens under this head. Length of the forearm 2.05 and 1.925 inches, 51 and 48 mm.

I observe that the type has been described by Allen in Proc. Acad. Philad. 1862, p. 246, not p. 146 (Allen's Monograph, 1864), nor p. 46 (apud Peters, Monatsb. Akad. Berlin, 1871), nor p. 146 (Dobson's Catalogue, 1878).

Vespertilio nigricans Wied.

Two adult males and one young male, eight adult females and one young female.

The young specimens have the face darker colored than the adult ones. Length of forearm: in the adult males 1.35 inches (33.75 mm.); young male 0.95 inc. (23.75 mm.); adult females 1.4, 1.35, 1.3 inc. (35, 33.75, or 32.5 mm.); young female 1 inch (25 mm.).

Natalus stramineus Gray.

One not adult male.

Very peculiar is the thick long moustache extending the whole length of the upper-lip (Tomes, P. Z. S. L. 1856, p. 178). According to Dobson (Catalogue, p. 343): »the tail is *much longer* than head and body, the extreme »tip alone projecting"; Tomes (l. c. p. 177) says: the tail is *equal in length* to the head and body, it consists of seven joints, the terminal one being small". In my specimen the tail ends indistinctly in the membrane, the tip is not projecting and the tail is *shorter* than head and body. Perhaps

these differences are to be partly explained by the fact that our specimen is not adult as its other dimensions show.

	Inches.	Mm.
Length third finger, metacarpal . . .	1,25	31,25
» » » 1 st phalanx . . .	0,25	6,25
» » » 2 nd » . . .	0,75	18,75
» fourth » metacarpal . . .	1,15	28,75
» » » 1 st phalanx . . .	0,3	7,5
» » » 2 nd » . . .	0,4	10,—
» fifth » metacarpal . . .	1,1	27,50
» » » 1 st phalanx . . .	0,4	10,—
» » » 2 nd » . . .	0,2	5,—
» forearm	1,425	35,62

It agrees for the rest with the well know descriptions of the species.

Saccopteryx leptura Schreber.

One adult male.

Length of forearm 1,5 inches (37,5 mm.).

Noctilio leporinus Linnaeus.

Two adult males.

The largest is bright red colored, the other reddish brown. Length of forearm 3,2 inches (80 mm.) and 3,15 inches (78,75 mm.).

Molossus planirostris Peters.

One adult male and two adult females.

This very rare species is wel characterized by its small size and by the white color of the chest and abdomen. Male with a gular sac, not developed in the females. Forearm of male 1,4 (35), of females 1,3 inches (32,5 mm.).

Molossus obscurus Geoffroy.

Seven adult males, eight adult females and one young female.

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The largest specimen has the forearm 1,6 inches (40 mm.), the young female 1,05 inch. (26,25 mm.).

Molossus abrasus Temminck.

Three adult females.

Vampyrus spectrum Linnaeus.

One adult male.

Phyllostoma hastatum Pallas.

One adult male.

The forearm measures 3,3 inches (82,5 mm.).

Carollia brevicauda Wied.

One adult female.

Rhinophylla pumilio Peters.

Two adult females.

It seems to be an exceedingly rare species, as besides the type (a dried skin) described by Peters, the specimen described by Dobson and the specimens in the Leyden Museum there have no other been recorded, as far as I am aware. Our specimens have the forearm of the size of Peter's specimen, therefore somewhat larger than in Dobson's individual. I add to the excellent description given by the latter author that the white skin covering the armbones and the white claws contrast strikingly with the dark colored wing-membranes and feet.

Glossophaga soricina Pallas.

Six adult male specimens.

Artibeus planirostris Spix.

Twenty-five adult and young males and females.

Artibeus quadrivittatus Peters.

One adult female specimen.

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Desmodus rufus Wied.

Three adult females.

Desmodus Youngii, n. sp.

One adult male.

	Inches.	Mm.
Length of forearm	1,95	48,75
» » thumb with claw	0,45	11,25
» » third finger, metacarpal . .	2,—	50,—
» » » » 1 st phalanx	0,4	10,—
» » » » 2 nd »	1,05	26,25
» » » » 3 rd »	0,8	20,—
» » fourth finger, metacarpal . .	2,—	50,—
» » » » 1 st phalanx	0,375	9,37
» » » » 2 nd »	0,85	21,25
» » fifth finger, metacarpal . .	1,85	46,25
» » » » 1 st phalanx	0,375	9,37
» » » » 2 nd »	0,55	13,75
» » tibia	0,95	23,75
» » foot	0,6	15,—

Comparing these measurements with those of the same parts in *Desmodus rufus* it appears that *D. Youngii* is a smaller species, for in the former the forearm measures about 2,5 inches; very remarkable are the greater dimensions of the second and third phalanx of the third finger, being 0,65 and 0,65 in *D. rufus*, 1,05 and 0,8 in *D. Youngii*, the second phalanx of the fourth finger 0,6 in *rufus*, 0,85 in *Youngii*, meanwhile the foot in both species present the same length.

The wings folded and pressed against the body attain the level of the crown of the head in *D. rufus*, in *D. Youngii* however they reach the mentum.

Nose-leaf broader than in *D. rufus*, the notch ¹⁾ in the centre of its upper margin forms an angle of 120 degrees — about 60 in *rufus* — upper part of side-margins slightly

1) Withdrawn in Dobson's Catalogue, pl. XXX, fig. 7.

concave — smooth in *rufus* —, the glandular elevations on the sides much more developed than in *rufus*. Lower lip projecting and grooved like in *rufus*. A not described characteristic present in both species is a well developed fold of the skin connecting the ear to the upper part of the head. Ears still shorter than in *rufus*, a little higher than the crown of the head; the outer margin of the ear terminates in a larger and much more rounded off wart than in *rufus*; tragus less hairy on its front surface and the outer margin not toothed like in *rufus*.

Thumb shorter than the foot; a large cushion at the base of the metacarpal bone, the second cushion so well developed in *rufus*, is absent in *Youngii*. Interfemoral membrane from about the heels: heel without projecting cushion: feet stronger and broader than in *rufus*, for the rest like in that species.

Much lighter colored than *rufus*: the wingmembrane between second and third finger for its greatest part white colored: the wingmembrane between third and fourth finger white colored from about half way the second phalanx downward, a white triangle on the wing-membrane between the second phalanges of the fourth and fifth fingers.

The dentition seems not to differ from that of *rufus*.

I make it me a great pleasure to connect this very interesting new species, the second well established of the genus *Desmodus*, with the name of a man, to whom our Museum is indebted for so many additions to its collections of the British Guyana animals.

NOTE XLII.

REPORT ON THE PODOPHTHALMOUS CRUSTACEA,
COLLECTED IN THE YEAR 1891 BY
DR. H. TEN KATE IN SOME ISLANDS OF
THE MALAY ARCHIPELAGO.

BY

Dr. J. G. DE MAN.

(Plates 7 and 8).

List of Species.

<i>Leptodius crassimanus</i> A. M. Edw. var.	<i>Petrolisthes indicus</i> n. sp.
<i>Thalamita Danae</i> Stimps.	» <i>barbatus</i> Heller.
<i>Goniosoma orientale</i> Dana.	<i>Clibanarius corallinus</i> (M. E.) Dana.
<i>Ocypode Kuhlîi</i> de Haan.	<i>Coenobita rugosus</i> M. E.
» <i>cordimana</i> Latr.	<i>Alpheus Edwardsii</i> Aud.
<i>Varuna literata</i> Fabr.	<i>Caridina typus</i> M. E.
<i>Leiolophus planissimus</i> Herbst.	» <i>timorensis</i> n. sp.
<i>Geograpsus</i> sp.	» <i>Wyckii</i> Hickson, var.
<i>Sesarma Aubryi</i> A. M. E.	<i>Palaemon dispar</i> v. Martens.
» sp.	» <i>lar</i> Fabr.
<i>Remipes denticulatifrons</i> White.	» <i>placidulus</i> de Man.
<i>Petrolisthes inermis</i> Heller.	» <i>lepidactyloides</i> de Man.
» <i>Tenkatei</i> n. sp.	<i>Gonodactylus chiragra</i> Fabr.
	» <i>scyllarus</i> L.

1. *Leptodius crassimanus* A. M. E. var.

Confer: de Man, in: Archiv f. Naturgeschichte, Jahrg.
1853, 1888, p. 287.

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A single young male specimen from Poeloe Samaoe.

I have described (l. c.) some specimens of *Leptodius* from the Bay of Batavia under the name of *Lept. crassimanus* A. M. E., most of which presented the peculiar shape of the front characteristic of this species, but some of which more resembled *Lept. exaratus* M. E., as regards the shape of the front. The specimen from Poeloe Samaoe now fully agrees with the last-named specimens, the front presenting the same form as in *Lept. exaratus*. The antero-lateral margins, however, are armed with six teeth, the lobes of the upper surface are rather much prominent and finely granulate near the antero-lateral margins and are moreover somewhat rugose on the anterior half of the upper surface. The cephalothorax and the chelipedes are marked on the same manner with the characteristic orange-coloured spots.

For the rest this specimen perhaps may be referred with the same right to *Lept. sanguineus* M. E.

The cephalothorax is 15 millim. broad and $9\frac{1}{2}$ millim. long.

2. *Thalamita Danae* Stimps.

Confer: de Man, in: Journal of the Linnean Soc. of London, Vol. XXII, 1888, p. 78, Pl. IV, figs. 8 and 9.

One young male specimen from Poeloe Samaoe.

The fourth antero-lateral tooth is considerably smaller than the other teeth, so this specimen must be referred to the variety *Stimpsonii* A. M. Edw. The abdomen does not present the form that I have figured, l. c. fig. 9, but more resembles the figure published by A. Milne Edwards (Archives du Muséum, T. X, Pl. XXXVI, fig. 1^a), the lateral margins of the penultimate joint not bulging out anteriorly and being rather little convex.

The cephalothorax is $20\frac{1}{2}$ millim. broad.

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3. *Goniosoma orientale* Dana.

Synon.: *Goniosoma dubium*, Hoffmann, Crustacés de Madagascar, 1874, p. 11, Pl. II, figs. 6, 7, 8.

Confer: de Man, in: Notes from the Leyden Museum, I, 1879, p. 60 and V, 1883, p. 151.

Two male specimens from Endeh, Flores, the cephalothorax of the larger of which is 40 millim. broad.

This species has hitherto only been recorded from the island of Réunion, from the Philippine Islands (Mindanao) and from Timor and doubtless belongs to the rare species of this genus.

4. *Ocypode Kuhlii* de Haan.

Five specimens from Poeloe Samaoe, that are not yet come to full growth, and three of which are still very young, are likely to be referred to the above-mentioned species.

The identification of young individuals of *Ocypode* is difficult, because the cephalothorax has a different form and because the musical ridge is often still wanting or scarcely distinguishable. In the largest individual, however, a female, the cephalothorax of which is 30 millim. broad, the musical ridge is already developped and composed out of nine or ten small tubercles that have the shape characteristic of this species. The male specimen, the cephalothorax of which is 24 millim. broad, also already shows a trace of these tubercles when seen under a magnifying-glass.

5. *Ocypode cordimana* Latr.

Three young individuals from Poeloe Samaoe.

6. *Varuna literata* Fabr.

One young female specimen from the western part of the island of Soemba.

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7. *Leiolophus planissimus* Herbst.

Sixty specimens of different size from Endeh, Flores, among which about as many female as male individuals.

The lateral margins of the cephalothorax are armed with four teeth, the extraorbital teeth being included. There are no small tubercles on the posterior cardiacal region, that should be found on that of *Leiol. affinis* M. E. from the Sandwich Islands. Seven or eight small sharp teeth are found on the external half of the supraorbital margins and three or four very small acute tubercles are observed on the internal margins of the antennular cavities, i. e. upon the lateral margins of the front. These characters are presented by all the sixty specimens, as well by the males as by the females.

The specimen figured by Herbst, is apparently a female.

8. *Geograpsus* sp.

A very young male from Poeloe Samaoe.

This specimen could not be identified by me with any of the known species, on account of its small size, the cephalothorax being only 9 millim. broad; it belongs probably to *Geogr. Grayi* M. E., as the meropodites of the ambulatory legs of *Geogr. crinipes* Dana from the Pacific Ocean are more enlarged.

9. *Sesarma Aubryi* A. M. E.

Two young specimens (♂, ♀) from the island of Great-Bastaard, near Flores.

	♂	♀
Greatest width of the cephalothorax:	11 millim.	$10\frac{2}{5}$ millim.
Breadth of the upper frontal margin:	$4\frac{1}{5}$ »	$4\frac{3}{4}$ »

In these specimens the front therefore not yet measures half the width of the cephalothorax.

The penultimate joint of the male abdomen is $3\frac{2}{5}$ millim. broad at its posterior margin and $1\frac{2}{5}$ millim. long.

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10. *Sesarma* sp.

One young male specimen from the island of Great-Bastaard, near Flores.

It cannot be identified with certainty, but it is closely allied to *Ses. angustifrons* A. M. E. from the Pacific Ocean. This species also presents a great resemblance to *Ses. Weberi* de Man from Flores, but I cannot see a trace of the characteristic transverse ridges that are found on the mobile finger of the anterior legs of the latter form, so that it may not be referred to *Ses. Weberi*.

The cephalothorax is 9 millim. long.

11. *Remipes denticulatifrons* White.

Confer: de Man, Decapoden des Indischen Archipels, in: Max Weber, Zoologische Ergebnisse einer Reise in Niederländisch Ost-Indien, Bd. II, 1892, p. 351.

Four specimens from Endeh, Flores.

The cephalothorax of the two largest is 24 millim. long. In this species the fine interrupted transverse lines on the upper surface of the cephalothorax are very numerous and crowded, for the most part short and all are crenulated in zigzag-lines. The shallow pits bordered with tufts of short hairs, that form a linear series on the lateral margins of the carapace, are numerous and close. The lateral lobes of the front are triangular, spiniform and project beyond the level of the median lobes. The terminal joints finally of the second and third pair of legs are strongly falcate.

12. *Petrolisthes inermis* Heller.

Plate 7, fig. 1.

One single young male specimen, collected together with the following species at Endeh, Flores, ought very likely to be referred to the above-mentioned *Petrolisthes*.

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13. *Petrolisthes Tenkatei* n. sp.

Pl. 7, fig. 2.

Eight specimens of different size, viz. seven males and one ova-bearing female were collected at Endeh, Flores, by Dr. ten Kate, whom I have much pleasure to dedicate this new species.

Petrol. Tenkatei belongs to those species the cephalothorax of which is neither armed with a supra-ocular — nor with an epibranchial tooth, and is most closely allied to *Petrol. leptocheles* Heller from the Red Sea, to *Petrol. hastatus* Stimps. and *Petrol. japonicus* de Haan from Japan, and to *Petrol. inermis* Heller that occurs at the Nicobar Islands, at the Mergui Archipelago and on the shores of Java and Flores.

The cephalothorax has nearly the same form as that of *Petrol. inermis* Heller, is still a little broader than long and is distinguished by this character at first sight from *Petrol. elongatus* M. E. and *Petrol. unilobatus* Henderson, the cephalothorax of which is considerably longer than broad. The whole upper surface of the cephalothorax, which is glabrous and shining, is a little punctate on the middle and posteriorly, the little points being somewhat more distant from one another on the mesogastric and on the cardiacal regions than more laterally; as usually transverse elevated lines are observed near the lateral margins and also on the front and as usual a transverse elevated crest is found immediately behind the imaginary line that unites the external angles of the orbits. The little prominent front is triangular, and shows the ordinary mesial furrow, by which the postfrontal crest is interrupted, and on either side of it an oblique lateral one, that separates it from the upper margins of the orbits. The front is rounded at the apex anteriorly, but the lateral margins of it are but very slightly emarginate, so that lateral lobes can hardly be distinguished. The lateral margins of the front, as also the concave upper margins of the orbits,

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are entire, not granulate, and the lateral margins of the cephalothorax are slightly cristate. The under surface is also smooth and shining; only a few punctations are found on the smooth and shining abdomen, the middle joints of which are a little hairy.

The anterior legs are elongate and slender, like those of *Petrol. leptocheles* and *japonicus*. They are somewhat unequal, the right being mostly the larger. The anterior margins of the meropodites are provided with a blunt tooth, that is again finely denticulate; the exterior margins of these joints by which they articulate with the carpopodites, are armed inferiorly with a small acute tooth, both in the male and in the female. In the adult males the carpopodites are still a little longer than the cephalothorax, but in younger specimens they are shorter than it. The carpopodites of the adult male, both of the right and of the left chelipede, are somewhat more than three times as long as broad, but in younger individuals they are comparatively less slender. The carpopodites of the anterior legs of *Petrol. rufescens* Heller, a species that occurs in the Red Sea and according to Hilgendorf also on the shores of Moçambique, are considerably broader and not yet twice as long as broad. The anterior margins of these joints are provided with three or four long, but rather low and little prominent teeth; in young specimens (Fig. 2b) the first of these teeth is often sharp, but in older individuals they are rather obtuse prominences and on the carpopodite of the larger or right chelipede of the largest male specimen (Fig. 2), the third tooth is so little developed, that I only observe two teeth, but the left carpopodite presents again four little prominent teeth. The posterior margin is armed, as in *Petrol. inermis* Heller and in *hastatus* Stimps., with a single sharp tooth at the distal end, which is not preceded by smaller ones. The hands are also elongate and slender; the larger is three times as long as measures its greatest

width, whereas the smaller hand is still narrower. The rather little convex upper surface of the hands bears no longitudinal elevated ridge. The outer border of the palm that is entire and not dentate, is nearly straight, but the outer border of the immobile finger is curved inward, somewhat more than that of the larger than that of the smaller hand and the entire inner border of the palm is also straight. The fingers of the larger hand of the adult male measure a third of its whole length, but those of the smaller chela are but little shorter than the palm; in younger specimens the fingers are comparatively a little longer. The triangular dactylus of the larger chela is armed at its under surface near the finely granulated inner border, with an oblong smooth tubercle, that is not found on the dactylus of the smaller hand. The fingers of the larger chela are glabrous on their inner borders, but those of the smaller are densely hairy. In one specimen, apparently also a male, the fingers of the larger chela resemble those of the smaller, being longer than in the other specimens, likewise hairy on their inner borders and presenting no oblong tubercle: I consider it to be a variety. For the rest the anterior legs are glabrous. The upper surface of the wrist is marked with fine oblique granulated lines, and appears finely granulated towards the anterior margin; the upper surface of the hands is also finely granulated, the granules being, however, not piliferous, but quite glabrous. The under surface of the hands is also minutely granulated near the inner border.

The ambulatory legs resemble those of *Petrol. inermis* Heller. The meropodites of the first and second pair are armed on their anterior border with a single sharp spinule, the distance of which from the distal end of the border measures a fourth or a fifth of it, but those of the third pair i.e. of the penultimate pair of legs, are quite unarmed. The posterior border of the meropodites of the third pair of ambulatory legs is also entire, not dentate, but that of the meropodites of the

first and second pair is armed near the distal end with a rather large sharp tooth, and often a second smaller tooth is observed between the former and the distal end of the joint. The anterior border of the carpopodites and propodites of the ambulatory legs is entire, nowhere dentate, but the posterior margin of the propodites terminates in a sharp spinule at the distal end. The ambulatory legs are somewhat hairy.

The cephalothorax of the largest specimen, a male, is $8\frac{1}{4}$ millim. long and $8\frac{1}{2}$ millim. broad, and the larger or right chelipede measures 32 millim. The cephalothorax of the ova-bearing female specimen is $5\frac{3}{4}$ millim. long and $6\frac{1}{4}$ millim. broad, and its anterior legs have a length of about 17 millim.

Petrol. leptocheles Heller is a closely allied species. I therefore sent a specimen of *Petrol. Tenkatei* to Mr. C. Koelbel of Vienna, who kindly compared it with the type specimens of Heller's species and wrote me back that he considered the species from Flores to be a different one. In *Petrol. leptocheles* indeed the lateral margins of the front are more profoundly emarginate, so that the lateral lobes are more distinct, the meropodites of all the ambulatory legs have no spinule on their anterior margin, but are quite unarmed, and even the sharp teeth with which the posterior borders of the meropodites of the first and second pair of *Petrol. Tenkatei* are armed, are not found in *Petrol. leptocheles*.

Perhaps our species may once prove to be identical with *Petrol. hastatus* Stimpson, but the lateral margins of the cephalothorax are described as scarcely cristate and the meropodites of the ambulatory legs are probably armed with more spinules as Stimpson says: »merus superne sparsim spinulosus". I therefore conclude, like also by the different habitat, Japan, that Stimpson's species is another one.

An adult specimen of *Petrol. inermis* Heller, described in my paper on the Crustacea of the Mergui Archipelago,

lies before me. This species may be easily distinguished by the less slender chelipedes. The wrist (Fig. 1) is not so slender: that of the larger leg is 11 millim. long and $4\frac{1}{3}$ millim. broad. Its anterior margin is always armed with three teeth, that are more acute and more prominent than those of *Petrol. Tenkatei*. The chelae (Fig. 1) are broader in proportion to their length, the larger chela is namely 22 millim. long and 9 millim. broad, whereas the larger chela of *Petrol. Tenkatei* is 18 millim. long and 6 millim. broad. The outer border of the chelae is moreover more arcuate and the fingers of both chelipedes are hairy on their inner borders.

The anterior margin finally of the carpopodites of the anterior legs of *Petrol. japonicus* de Haan bears only one or at most two teeth, a second tooth is observed in this species preceding the distal tooth at the posterior margin of these joints and the anterior border of the meropodites of the ambulatory legs is quite unarmed.

14. *Petrolisthes indicus* n. sp.

Plate 7, fig. 3.

One single male was collected at Endeh, Flores.

This handsome species is most closely allied to *Petrol. mossambicus* Hilgendorf (Monatsberichte Kön. Akad. der Wissenschaften zu Berlin, 1878, p. 825, Pl. II, fig. 6), which inhabits the coast of Moçambique, and it represents the latter in the Malay Archipelago.

The cephalothorax is $5\frac{3}{4}$ millim. long and exactly as broad and presents the same form as that of *Petrol. mossambicus*. The front, however, has a different shape. It is much prominent, but it is very narrow and separated by deep lateral emarginations from the internal angles of the orbits that are blunt and obtuse. The lateral margins of the front are somewhat elevated and separated from one another by a deep mesial furrow, that divides itself, as usual, immediately behind

the imaginary line which unites the external orbital angles, in two furrows that border the anterior part of the mesogastric area. The upper margins of the orbits are concave, their external angles straight and the lateral margins of the cephalothorax, which are almost straight and diverge backwards, are distinctly cristate. These lateral margins like also the orbital margins and those of the front, are entire, nowhere dentate, and both a supra-ocular and an epibranchial tooth are wanting. The somewhat convex, glabrous upper surface presents about the same remarkable sculpture as is found in *Petrol. mossambicus*, though not exactly on the same manner. Like as in the Afrika-species, the cervical suture is followed a little more backwards by another one, parallel with the former, and the two epigastrical lobes are tuberculiform, whereas the mesogastric region presents on either side a small tubercle, a few granules being placed before them. No tubercles, however, are observed on the lateral parts of the gastric region. Six symmetrically arranged prominences are found on the cardiacal region, of which the two anterior pairs are separated from one another by a rather broad transverse groove, the two posterior by a very narrow one. Three or four tubercles are observed, on either side, between the two cervical sutures. The posterior cervical suture is bordered by some oblong prominences and many short transverse ridges or elevations are found on the branchial regions, of different size, and which become smaller towards the lateral margins of the cephalothorax and which are so small on the intestinal region, that they may only be recognized there by means of a magnifying-glass.

The median triangular part of the terminal segment of the smooth abdomen is rather long, its posterior margin being not yet twice as broad as measures the length of this part of the telson. The three basal joints of the external antennae are, as in *Petrol. mossambicus*, all equally short.

The left chelipede is wanting. The meropodite of the

other leg bears an obtuse tooth at the anterior margin. The wrist is still a little shorter than the length of the cephalothorax, it is namely 5 millim. long and scarcely 2 millim. broad in the middle and consequently has the same form as in the african species; the rather acute and straight anterior margin presents only one single small obtuse tooth at the proximal end, though it projects a little near the distal end; the posterior margin terminates at the distal end into a rather acute tooth, that is not preceded, however, by a small tubercle. The upper surface of the wrist is marked with a rather deep longitudinal groove, near and parallel with the anterior margin; it is not granulate, but provided with some elevated lines towards the posterior border. The chela resembles the left chela of *Petrol. mossambicus* (Hilgendorf, l. c. fig. 6); it is 10 millim. long and $4\frac{1}{2}$ millim. broad, therefore nearly twice as long as broad. The much flattened palm is slightly obtusely cristate near the straight inner margin and the outer margin is very sharp, a little arcuate and entire. The upper surface is not tubercular, and, like the under surface, almost smooth. The fingers seem to be pubescent on the inner border and a short pubescence seems to have been present also at the under surface of the outer margin of the palm, but the long hairs of *Petrol. mossambicus* are deficient.

The ambulatory legs that are not hairy, have still a little more compressed shape than those of *Petrol. mossambicus*. The anterior margin of the meropodites is sharply carinate, here and there granulate, but not dentate; on the same manner the posterior margin is unarmed, but somewhat granular in the first and second pair. The outer surface of these joints is granulate and rather deeply sulcate almost in the middle, especially that of the meropodites of the second and third pair. The anterior margin of the carpopodites is also carinate and these joints are, like the propodites, somewhat granular; the outer surface finally of the last pair of legs is also granular.

Like as *Petrol. mossambicus*, also *Petrol. indicus* is apparently at first sight distinguished from all the other numerous species of this genus by the sculpture of the cephalothorax and of the ambulatory legs, as also by the form of the carpopodite of the chelipedes; it differs from the species of the shores of Moçambique especially by the different form of the front and by some other characters.

15. *Petrolisthes barbatus* Heller.

Plate 7, fig. 4.

Porcellana barbata, Heller, Crustaceen der Novara-Reise, p. 80, Taf. VI, fig. 8. (1865).

? *Porcellana coccinea* Owen, Crustacea of the voyage of the Blossom, p. 87, Pl. XXVI, figs. 1, 2. — Dana, Unit. States Explor. Exped. Crustacea, p. 423.

Eight fine specimens of different size from Endeh, Flores. As Heller's description of this species is rather incomplete, I sent an adult specimen to Mr. Koelbel, of Vienna, in order to attain accuracy in naming it. Mr. Koelbel kindly compared our specimen with the single type specimen of *Porc. barbata* Heller from the Nicobar Islands in the »K. K. naturhistor. Hofmuseum" and informed me that he was fully convinced that the two species are identical. ¹⁾

Petrol. barbatus Heller belongs to the small number of species which are armed besides with an epibranchial tooth, also with a supra-ocular one. This supra-ocu-

1) On this manner, no doubt, a perfect accuracy is attained in the naming of species, when the original description is insufficient. But then it is a pity when the results of these comparisons are not read or neglected by following authors, because the synonymy then again becomes confused. So for instance Dr. Ortmann (die Decapodenkrebse des Strassburger Museums, IV Theil, p. 262 etc.) has apparently not read my description of *Petrol. dentatus* M. E. (Journal Linnean Soc. of London, Vol. XXII, 1888, p. 216), where I have proved, after having sent one of the specimens to Paris, that *Petr. dentatus* M. E. is really armed with an epibranchial tooth, though Milne Edwards makes no mention of this tooth in the »Histoire naturelle des Crustacés".

lar tooth or spine is placed on the upper margin of the orbits in front of the eye-peduncle, is sharp and directed somewhat obliquely inward and forward (Fig. 4a), being separated by a concave emargination from the lateral margin of the front.

Only one single type specimen of *P. barbatus* Heller is still preserved at the Museum of Vienna; it is a female, the left chelipede of which is wanting. A character of importance has neither been described nor figured by Heller. The outer margin of the chelae is namely armed with several, eight to ten, sharp teeth, directed distally, from the articulation of the wrist until the immobile finger. These teeth, as Koelbel informs me, are as distinctly developed and have the same form in the Vienna type specimen as in our species from Flores. The outer margin of the hands is somewhat arcuate. In the Vienna specimen, a fringe of long hairs is found on the outer margin and for a part also on the upper surface of the hand, by which the above-mentioned marginal teeth are entirely concealed. It is perhaps for that reason that Heller says: »die Scheere ist sehr flach mit scharfen Rändern", not describing the teeth. In the specimens from Flores the outer margin of the chelae is also hairy, but these hairs are very short, not longer than the teeth, so that the latter are not concealed by them. Koelbel is disposed to consider the stronger development of hairs on the hand of the Vienna species at most as a secondary sexual difference, because no other real differences are present. Two small sharp teeth are observed, both in the Flores and in the Vienna specimens, also on the inner margin of the palm, near the distal end, at a small distance from one another. The right chela is usually a little larger than the left. The carpopodite is armed at its anterior border with three or four (rarely five) very sharp, distinctly isolated teeth; so in one adult specimen (Fig. 4) the carpopodite of the right larger chelipede bears three, that of the smaller left four teeth, in another specimen the wrists of both

chelipedes are provided with four teeth, though the left chela is a little larger, and in a third example the right leg of which is again the larger one, the right carpopodite presents a very small fifth teeth between the third and the fourth, the left, however, four teeth; in the remaining smaller specimens the carpopodites are armed respectively with four and three teeth.

Heller says: *margine posteriore (carpi) non spinuloso*. This is not quite exact. The posterior margin terminates at the distal end into a bispinose tooth, that is preceded by one or two smaller ones; the latter, however, are placed on the upper surface of the wrist, so that they are not visible on the posterior margin itself. Heller therefore did perhaps not observe them or perhaps they are quite absent in the Vienna specimen, as Koelbel makes no mention of them in his letter. The arm bears a sharp tooth at the extremity of the anterior margin, and the exterior border that articulates with the carpopodite, presents two minute sharp teeth on the upper side and a similar spinule at the under surface. As regards the sculpture of the upper surface of the anterior legs, the Flores species fully agrees with the type specimen of Heller. I may observe concerning the following legs that in the Flores specimens the posterior margin of the meropodites of the fourth or penultimate pair presents only one single small tooth near the distal end, in the Vienna type specimen, however, two small teeth, like as the posterior margin of the second and third pair, a slight difference considered by Koelbel as individual. As well in our specimens of Endeh, as in the type example of Heller, the carpopodites of the second legs i. e. of the first pair of ambulatory legs, are armed at the distal end of their anterior border with a sharp spinule, that has not been described by the author of the »Crustaceen der Novara-Reise". The anterior margin of the meropodites of the three pairs of ambulatory legs is armed on its whole length with sharp spinules. As regards the shape of the cephalothorax, and

more especially of the front, and as regards the sculpture of their upper surface, the specimens of Flores fully agree with the type specimen of Vienna.

Our examples show a reddish colour on the upper side, a rather light one, on which the elevated lines and striae are marked with a darker red, and the violet propodites of the ambulatory legs are ornamented with a small white spot near the wrists; the under surface, especially that of the chelipedes, presents a violet hue.

The cephalothorax of the largest specimen is $9\frac{2}{3}$ millim. long and $9\frac{3}{4}$ millim. broad, thus about as broad as long. *Petrol. barbatus* Heller now is represented in the Red Sea by *Petrol. carinipes* Heller (Fig. 5), a species that bears also an epibranchial- and a supraocular tooth and which presents so great a resemblance to the former that it seems desirable to indicate the few differences between the two species. Before me lies the specimen of *Petrol. carinipes* Heller from Djeddah that I have described many years ago, (Notes from the Leyden Museum, Vol. III, 1881, p. 104), a description to which I refer. In the first place the front of *Petrol. carinipes* (Fig. 5a) is comparatively a little broader with more distinct, rounded lateral lobes. Then furthermore the carpopodites of the anterior legs are a little less slender than those of *Petrol. barbatus*. The posterior margin of these joints is armed with four small acute teeth, the distal one of which is double, as in *Petrol. barbatus*, but these teeth extend beyond the middle of the margin and are placed on the margin itself, so that they are more obvious than in the indian species. In *Petrol. carinipes* the carpopodites of the first pair of ambulatory legs are not armed with the sharp spinule at the anterior margin, which is found in the indian species, not only in the specimen of Djeddah, but also in the type specimen of Heller, as Koelbel writes. The posterior margin of the meropodites of the fourth or penultimate pair of legs of *Petr. carinipes* is entire, not dentate, and finally, according to Koelbel, the median

part of the telson of *Petrol. carinipes* should be comparatively a little longer and somewhat less distinctly emarginate on the lateral margins.

It appears to me very likely that *Porc. coccinea* Owen is identical with *Porc. barbata*, but I cannot decide this question, because Owen makes no mention of the epibranchial tooth, which is moreover not distinctly recognizable on the figure in the »Voyage of the Blossom.'' Owen's example was collected in the Paumotu Archipelago. According to Dana, whose specimens were collected at the Sandwich Islands, an epibranchial tooth is present, and then the identity becomes of course more probable.

16. *Clibanarius corallinus* (M. E.) Dana.

Confer: de Man, in: Archiv f. Naturgeschichte, Jahrg. 53, 1888, p. 447.

A young specimen from Poeloe Samaoe.

17. *Coenobita rugosus* M. E.

Five young individuals from Poeloe Samaoe.

18. *Alpheus Edwardsii* Aud.

Two female specimens from Endeh, Flores.

19. *Caridina typus* M. E.

Two specimens were collected together with *Car. timorensis* in the freshwater lake of Nefko, on the island of Timor.

20. *Caridina timorensis* n. sp.

Plate 8, fig. 6.

Thirty five specimens were collected in the freshwater lake of Nefko on the island of Timor, amongst which only one single ova-bearing female.

This species is no doubt, most closely allied to *Car. pareparensis* de Man (Max Weber, Zoolog. Ergebnisse u. s. w.

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Bd. II, 1892, p. 379, Pl. XXII, fig. 25), but differs by the different form and shape of the rostrum.

Like the above-mentioned species, which inhabits the river near Pare-Pare on Celebes, also *Car. timorensis* belongs to the species of a small size, as it measures only 17 or 18 millim. and brings likewise forth a small number of large eggs, which are 1,2 millim. long and about half as broad.

The rostrum which is short, presents about the same form as in some varieties of *Car. Weberi* de Man (l. c. Taf. XXII, fig. 23f), is horizontal or more or less directed downward and mostly reaches a little beyond the first joint of the antennal peduncle, sometimes to the middle of the second joint, sometimes, however, not farther than to the distal end of the first joint. The upper margin bears 3—5 small teeth, placed usually on the anterior half of the rostrum, more or less distant from the apex, at equal or unequal distances from one another, and none of which are placed on the cephalothorax. In a few specimens the upper margin presented only one or two teeth, they wanted completely in four examples, the upper margin being entire — in one specimen, on the contrary, I observed six teeth. The lower margin is armed anteriorly also with 3—5 contiguous, very small teeth. The antennal spine is distinct. The telson which is slightly tapering towards the distal end and which is a little shorter than the rami of the uropoda, bears four pairs of spinules on its upper surface; the distal end is armed with five pairs of spinules, of which those of the first, at the external angles, are very short and the shortest of all, being as long as the spinules of the upper surface, those of the second pair are four times longer and the longest of all, and the three remaining pairs are a little shorter than the second and nearly all of the same length.

The eye-peduncles are as long as the basal spine of the upper antennae, which is a little shorter than the first joint of the peduncle. The second joint is slightly shorter

than the first, the third a little shorter than the second, the whole peduncle does not reach to the distal end of the scales of the lower antennae and the spinule at the extremity of the first joint is short, measuring a third of the second joint. The outer foot-jaws do not reach to the extremity of the scales, but project almost with their whole terminal joint beyond the peduncle of the lower antennae.

The legs of the first pair reach to the extremity of the peduncle of the inferior antennae and are similar to those of *Car. pareparensis*. The rather deeply excavated carpopodite is short and only once and a half as long as broad and the fingers have the same length as the palm. The slightly longer legs of the second pair almost extend to the extremity of the scales and also agree with those of *Car. pareparensis*, as the wrist is a little longer than the chela, of which the fingers are scarcely longer than the palm. The legs of the third pair project a little beyond the scales, those of the fourth extend a little less forward than the second pair and about as far as the legs of the last pair. The dactylopodites of the last pair, that are a little less slender than those of *Car. pareparensis*, being not yet five times as long as broad, are armed at their inner margin with nearly 45 spinules and measure about a third or nearly a third of the length of the propodites.

21. *Caridina Wyckii* Hickson, var.

Plate 8, fig. 7.

Confer: de Man, in: Max Weber, Zoologische Ergebnisse u. s. w., Bd. II, 1892, p. 386, Taf. XXIV, fig. 29.

A single adult, ova-bearing female was collected together with the preceding species, in the freshwater lake of Nefko, Timor.

The rostrum of this specimen, that is 28 millim. long, is lanceolate, slightly directed downwards, reaches only to the middle of the third joint of the antennal peduncle and shows 31 teeth on the upper margin,

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and 14 or 15 on the lower. The two or three proximal teeth are placed on the cephalothorax, and all stand close together, the two last ones excepted, that are more distant from one another, the foremost near the apex; the teeth of the lower margin decrease in size towards the apex. By its shortness and by its shape, the rostrum somewhat agrees with that of the specimens from the river near Mbawa on the island of Flores (de Man, l. c. p. 393). The terminal post-abdominal segment is armed on its upper surface with five spinules on the right side and with four on the left and shows nine spinules at the distal end; those that stand at the external angles, are short, as long as the spinules of the upper surface, those of the second pair are four times as long and the longest of all, the spinules of the third and of the fourth pair are almost of the same length and somewhat shorter than those of the second pair, but finally instead of two spinules in the middle, as usual, in this specimen only one single median spinule is observed, which is a little longer than the spinules of the third and fourth pair, and scarcely shorter than those of the second.

The two pairs of antennae fully agree with those of the typical species. The legs of the first and of the second pair are typical. Those of the third reach a little farther, as they extend with a part of their terminal joints beyond the distal extremity of the scales; the legs finally of the fourth pair and those of the almost equally long fifth extend as far as in the typical species. The dactylopodites of the third and of the fourth pair have the same form as usual (de Man, l. c. fig. 29cc), being armed with six or seven spinules on their inner border, but they measure a fifth of the length of their propodites, as in the variety: *gracilipes*. The terminal joints of the fifth pair measure a fourth of their propodites, show 50—60 spinules on their inner margin, but have the same form as in the typical species (l. c. fig. 29dd).

22. *Palaemon* (*Eupalaemon*) *dispar* v. Martens.

Confer: de Man, in: M. Weber, Zoolog. Ergebnisse u. s. w. Bd. II, 1892, p. 427, Taf. XXVI, fig. 34.

A male from the hill-streamlets of the island of Great-Bastaard, near the north-eastern coast of Flores.

Two ova-bearing females from Maumeri, East-Flores.

The male is 90 millim. long. The rostrum extends as far forward as the antennal peduncle, the upper margin is somewhat convex and slightly directed downwards at the extremity. The upper margin is armed with ten teeth, of which the first is a little more distant from the second than the following, of which the third is placed justly above the anterior margin of the cephalothorax, whereas the foremost tooth, that stands near the apex, is nearly twice as far distant from the ninth, as the ninth from the eighth. The inferior margin is armed with three teeth. The rostrum therefore shows a great resemblance with that of a male specimen from Timor, that has been formerly figured by me (l. c. fig. 34b).

The right leg of the second pair is only present, of which the meropodite measures 11 millim., the carpopodite 17 millim., the palm 15 millim. and the fingers $8\frac{1}{2}$ millim. The fingers are armed with some small teeth along the proximal half of their inner edges.

The two females are respectively 75 millim. and 65 millim. long.

The formulae of the teeth of their rostra are $\frac{1}{4}^1$ and $\frac{1}{2}^1$; in the former specimen the third tooth stands above the anterior margin of the cephalothorax, in the other immediately behind it and in both specimens the teeth extend along the whole length of the upper margin until near the apex. In each specimen one of the legs of the second pair is deficient; in both, however, the two fingers of the remained leg show several small teeth along their inner edges.

24. *Palaemon (Eupalaemon) lar* Fabr.

Confer: de Man, in: Notes from the Leyden Museum, T. I, 1879, p. 168 (*ornatus*) and in: Max Weber, Zoologische Ergebnisse u. s. w. Bd. II, 1892, p. 445.

Sixteen specimens from the island of Timor, among which two adult males and five adult ova-bearing females; of these females, however, only one single bears still the two legs of the second pair. The smallest, ova-bearing female is 62 millim. long.

Nine examples from the hill-streamlets of the island of Great-Bastaard, situated near the north-eastern coast of Flores, among which two almost full-grown males and five ova-bearing females.

Eleven young specimens from Roti, near Timor.

Three young individuals from western Soemba.

In all these specimens the distal end of the telson terminates into a sharp, triangular tooth, which in some individuals is more or less rubbed off and in that case of course is less distinct.

25. *Palaemon (Macrobrachium) placidulus* de Man.

Confer: de Man, in: Max Weber, Zoolog. Ergebnisse etc. Bd. II, 1892, p. 489, Taf. XXVIII, fig. 48.

Five ova-bearing females from Maumeri, East-Flores.

Eleven specimens from the hill-streamlets of the island of Great-Bastaard, near the north-eastern coast of Flores.

One example, destitute of the second pair of legs, from Timor.

As I have formerly indicated, this species seems to be somewhat variable, as regards the length of the fingers of the smaller leg of the second pair in the male, and of the two legs of the second pair in the female. I therefore wish to give a more detailed description of these specimens.

The eleven examples from Great-Bastaard are all ova-

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bearing females, with the exception of a single fullgrown male, that bears still the legs of the second pair. This male specimen is 52 millim. long, the rostrum included, and thus a little longer than the largest male in the collection of Max Weber, that had a length of 44 millim. The rostrum reaches to the distal end of the second joint of the antennal peduncle; six of the ten teeth of the upper margin stand on the cephalothorax, and the lower margin shows two teeth. Like as in the mentioned male, that was collected by Prof. Weber on the island of Saleyer, the larger leg of the second pair is found on the right hand and fully agrees with that of the other specimen. The meropodite is 15 millim. long and the carpopodite 17 millim., whereas the latter is 5 millim. broad at the distal end; the chela has a length of 28 millim., the fingers are 12 millim. long. The palm which is 16 millim. long, is $6\frac{1}{4}$ millim. broad and $4\frac{1}{2}$ millim. thick, consequently compressed in the proportion of 3:2. The fingers are a little more slender than those of the male of Saleyer, but are for the rest quite similar. The meropodite of the shorter leg is 10 millim. long, the carpopodite 12 millim., the palm 10 millim. and the fingers 9 millim.: and this leg also agrees with that of the other specimen. The spinulation of these legs is also the same in both individuals.

The ten female specimens of Great-Bastaard are a little smaller than the described male, their length varying between 38 and 42 millim.; they are all nearly of the same size. Only one single female, 38 millim. long, is still provided with both legs of the second pair: the fingers are scarcely or not shorter than the palm; this is also the case with three other examples, which bear still one leg of that pair. One of these specimens shows a singular monstrosity. Only the four first or proximal teeth, that stand on the cephalothorax, are developed, and the rostrum is represented by a strongly arcuate hook, which is sharply acuminate, with the point directed downward,

and that reaches until the distal end of the first joint of the antennal peduncle.

The five specimens, all ova-bearing females, that were collected at Maumeri on the eastern part of Flores, perfectly agree with the female specimen from the river Lella, 48 millim. long, that I have formerly described (l. c. p. 492). This resemblance cannot surprise us, as the river Lella streams in the neighbourhood of Maumeri. These examples are considerably larger than the ten of Great-Bastaard, but this fact is sometimes also observed in other species, as is proved by the above-mentioned female specimens of *Palaemon lar* from Timor, that are all provided with eggs, of which the smallest has a length of 62 millim., the full-grown, however, of 10—13 centim., as also by the fact that the ova-bearing females of that species of Great-Bastaard show a middle length of 8 or 9 centim. The five examples from Maumeri are 55—60 millim. long, thus about as long as the adult male from Great-Bastaard. The upper margin of the rostrum is armed with 11—13 teeth, the sixth or seventh of which is placed above the anterior margin of the cephalothorax, the lower margin is armed in all with two teeth. One specimen, that has a length of 58 millim., is still provided with the left leg of the second pair. The meropodite measures $8\frac{1}{2}$ millim., the carpopodite has the same length and the chela is 17 millim. long, the fingers measuring 9 millim. The carpopodite of $8\frac{1}{2}$ millim. is $3\frac{1}{2}$ millim. thick at the distal end, the palm is 8 millim. long, $4\frac{3}{4}$ millim. broad and $2\frac{2}{3}$ millim. thick. These dimensions show that in this specimen the carpopodite and the meropodite have the same length and that they are only little longer than the palm, which is nearly once and a half broader than the carpopodite and still shorter than the fingers that meet along their inner edges when closed.

In another female, that is 56 millim. long, the two legs of the second pair have nearly the same length and

the same size, and the fingers of both legs are distinctly longer than the palm. In the three other specimens, that have all only one leg, the palm is also shorter than the fingers. It appears to me very probable that in the fullgrown females of this species the fingers are always a little longer than the palm, but that they are shorter than it at a younger age.

The single specimen from Timor must probably be referred to *Pal. placidulus*, but it is a pity that now again, as during the voyage of Prof. Weber, only a single specimen of this species has been collected on that island. The rostrum is armed above with 11 teeth, of which the eighth stands above the anterior margin of the cephalothorax, below with 2 teeth.

26. *Palaemon (Macrobrachium) lepidactyloides* de Man.

Plate 7, fig. 8.

Confer: de Man, in: Max Weber, Zoologische Ergebnisse etc., Bd. II, 1892, p. 497, Taf. XXIX, fig. 51.

A single fine male from the hill-streamlets of the island of Great-Bastaard.

This specimen is interesting, because it completes our knowledge of this rare species. It is considerably larger than the typical specimen, that was collected by Weber, and that had a length of 46 millim. from the apex of the rostrum to the tip of the telson, the example of Great-Bastaard measuring 74 millim. The rostrum agrees with the first specimen, reaches until the distal end of the second joint of the antennal peduncle and is armed above with eleven, below with two teeth: the six first teeth are placed on the cephalothorax, and the rostrum is narrow and directed downwards. The extremity of the telson is hurted and the right rami of the uropoda are deficient; the still present left rami have exactly the same length, the external being not longer than the internal. The

outer foot-jaws project with their terminal joint beyond the peduncle of the lower antennae, but they do not reach until the extremity of the scales. The legs of the first pair project with two third parts of their carpopodites beyond the distal end of the scales. The right leg of the second pair is the larger. The meropodite of this leg, that is $18\frac{1}{2}$ millim. long, projects with its distal half beyond the antennal scales; the carpopodite is 20 millim. long, and 8 millim. thick at the distal end, so that this joint is two and a half times as long as thick, like that of the specimen of Weber. The chela (Fig. 8) or hand is 49 millim. long, and the fingers measure 35 millim. Quite different from the first described individual, the fingers are not as long as the palm, but they are twice as long as it: this difference must, I think, be ascribed to the larger size i. e. to the higher age of this specimen. The palm is 14 millim. broad and 7 millim. thick, consequently as much compressed in the proportion of 2:1 as in the other example. The palm is also comparatively as much broader than the carpopodite as in the specimen that was collected by Prof. Weber, namely nearly twice as broad. The outer and the inner margin of the palm are arcuate, and the inner margin of the chela proceeds like a S. The slender and narrow fingers have an interspace between them when closed, that grows narrower towards their tips; neither the index, nor the dactylus shows the large teeth that were found in the specimen of Weber, but each finger shows on the whole length of its inner edge, a double row of numerous, very small sharp teeth. Between the latter, short fine hairs are observed by means of a magnifying-glass.

As regards the characteristic spinulation of this leg, this example agrees with that of Weber, but the spinules of the upper surface of the palm are somewhat more numerous and more crowded, that may be ascribed to the larger size of this individual.

This leg is consequently longer than the whole animal.

The left leg agrees with that of the first specimen. Here also the meropodite which is 12 millim. long, does not yet reach to the extremity of the antennal scales. The wrist, which is 11 millim. long, is likewise shorter than the meropodite and the chela measures 25 millim. The fingers, that are 16 millim. long, are gaping and clothed with the characteristic hairs. The palm is 9 millim. long, 7 millim. broad and $4\frac{1}{3}$ millim. thick. In this specimen also the fingers are almost twice as long as the palm. Both legs of the second pair show a sea-green colour and are marked with light spots, whereas the fingers present a light-coloured band, placed on the larger chela near their tips, (Fig. 8), on the smaller in the middle of them.

This species now, of course, appears to be still more allied to *Pal. lepidactylus* Hilgendorf of the coast of Moçambique, because in this specimen the fingers of the larger hand are longer than the palm. Nevertheless I regard the two species to be different. The teeth of the rostrum reach almost until the middle of the cephalothorax, but in the african species they extend only along the distal third of it. The characteristic spinulation of the upper and of the lower surface of the palm of the larger hand is a different one and the character presented by the rami of the uropoda is also shown by this second specimen. The fingers, moreover, of the larger hand of *Pal. lepidactylus* are more hairy and the chela itself has a different form.

27. *Gonodactylus scyllarus* L.

Two specimens from Larantoeke, East Flores.

28. *Gonodactylus chiragra* Fabr.

A single specimen from Poeloe Samaoe.

Middelburg, Sept. 1893.

EXPLANATION OF THE PLATES.

Plates 7 and 8.

- Fig. 1. *Petrolisthes inermis* Heller. Larger chelipede of a full-grown specimen from the Mergui Archipelago. $\times 2$.
- Fig. 2. *Petrolisthes Tenkatei* de Man, from Endeh, Flores, male, $\times 2$; 2a, front of the same specimen, $\times 5$; 2b the carpopodite of the left, smaller chelipede of another younger specimen, in which the teeth of the anterior margin are more distinct, $\times 4$.
- Fig. 3. *Petrolisthes indicus* de Man, from Endeh, Flores, $\times 3$; 3a front of the same specimen, $\times 6$.
- Fig. 4. *Petrolisthes barbatus* Heller, male specimen from Endeh, Flores, $\times 2$; 4a front of the same individual, $\times 6$.
- Fig. 5. *Petrolisthes carinipes* Heller, specimen from Djeddah, Red Sea, $\times 3$; 5a front of this specimen, $\times 6$.
- Fig. 6. *Caridina timorensis* de Man, Figs. 6a, 6b and 6c lateral view of the rostrum, of the eyes and of the basal part of the antennal peduncle of three individuals; 6d carpopodite and chela of the first pair of legs, 6e the same joints of the second pair, 6f dactylopodite of a leg of the fifth pair, 6g an egg. All the figures are twenty five times magnified, with the exception of fig. 6f which is fifty times.
- Fig. 7. *Caridina Wyckii* Hickson, var. Lateral view of the rostrum of a female specimen from Timor, $\times 6$; 7b distal end of the rostrum of this specimen, $\times 25$.
- Fig. 8. *Palaemon (Macrobrachium) lepidactyloides* de Man, larger chelipede of a male specimen, collected in the hill-streamlets of the island of Great-Bastaard.

NOTE XLIII.

ON A NEW SPECIES OF THE GENUS TESTUDO

BY

Dr. Th. W. VAN LIDTH DE JEUDE.

(Plate 9.)

On arranging the tortoises of the genus *Testudo* in the collections of the Leyden Museum I met with a mounted specimen, collected at the Cape of Good Hope by the late Kuhl and van Hasselt, which though having much in common with *Testudo geometrica* L., yet in other points differs from that species and shows more resemblance with *Testudo elegans* Schoepf. In the absence of the nuchal shield as well as in the peculiar form of its gular shields our specimen differs from the South-African species of the genus *Testudo* allied to *Testudo geometrica* ¹⁾ and must be regarded as to belong to a new species:

Testudo Strauchi nov. spec.

Carapace very convex, the dorsal shields, especially the third one, swollen and subconical, lateral marginals nearly vertical not forming an angle with the costal shields, posterior margin feebly reverted and feebly serrated, shields very strongly striated concentrically. *No nuchal*, supracaudal single feebly incurved, first vertebral as long as broad, the others much broader than long, the third broader than

1) G. A. Boulenger. On the South-African Tortoises allied to *Testudo geometrica*. Proc. Zool. Soc. 1886, p. 540.

the corresponding costal. Plastron large very openly notched in front, deeply notched behind; *gulars very long*, the suture between them being nearly one and a half as long as the suture between the humerals, suture between the humerals as long as that between the femorals, suture between the anals smaller than that between the humerals and nearly twice as long as that between the pectorals. Axillary small, inguinal large. Head moderate with feebly hooked beak, upper head shields small and irregular. No large tubercle on the hinder side of the thigh. Carapace dark brown with yellow radiating rays, shields of plastron brown with an excentrically placed yellow spot from which radiate yellow rays.

Length of shell 14 cm., depth 8,5 cm., length measured over the curve 19,5 cm..

I dedicate this species to the memory of the late Dr. Alexander Strauch, who by his very valuable and highly esteemed papers on Chelonians has so much advanced our knowledge of this interesting group.

LEYDEN MUSEUM, Sept. 1893.

NOTE XLIV.

ON THE HABITS OF THALASSINA ANOMALA HERBST

BY

Dr. R. HORST.

In his interesting note on *Thalassina scorpionoides*¹⁾ Latr. (Challenger-Reports, Zoology, Vol. XXIV, p. 19, Pls. III, IV) Mr. Spence Bate gives a detailed description of the peculiar branchial organs of this animal, which in the central portion of the branchial chamber, instead of consisting of cylindrical rods, are developed into thin foliaceous plates, bringing the blood over a large surface into contact with the aërating medium within the chamber. From this structure the author believes, that it may be deduced, that the circulation of the water through the branchial chamber cannot be very vigorous and that the animal probably inhabits hollow passages in the mud. It will therefore not be without interest to know, what an eye-witness Prof. K. Martin, who met with these animals during his journey in the Moluccas, writes us about their habits and mode of existence.

1) It seems to me very dubious, whether the specimen, described by Mr. Spence Bate is identical with *Th. anomala* Herbst (— *scorpionoides* Latr.); in this species the second pair of pereiopoda more resembles the first of them than the following ones. It has its propodos compressed, nearly as long as broad, with a short, pointed pollex and is furnished with a compressed, arched dactylos. However in the specimen of Kandavu, as described and figured by Mr. Sp. Bate, the second, third and fourth pairs of pereiopoda resemble each other; the propodos is subcylindrical, longer than broad and the dactylos is curved in a reverse direction from the common plan.

»Bei Kajeli (Buru) landend, betrat ich zunächst beim Fort eine grasbedeckte, sumpfige Ebene. Ihr Boden ist mit zahlreichen, etwa $\frac{1}{2}$ m. hohen Erdhügeln besetzt, in denen man mehrere Centimeter weite, rundliche Schlupflöcher bemerkt. Sie werden von einem langschwänzigen Krebse aufgeworfen, einem Thiere, welches ich später nur mit grosser Mühe nach zahlreichen vergeblichen Grabversuchen erhielt; es ist im Leben schön gefärbt, licht schieferfarben, mit backsteinrothem Rückenstreifen und schwarzen Borsten an den Gliedmassen.

Bereits auf Seran hatte ich solche Hügel wahrgenommen, und auch dort versicherte man mich, dass sie von Krebsen aufgeworfen seien. Es dürfte wohl kaum zweifelhaft sein, dass diese Hügel von demselben Thiere herrühren. Sie befanden sich in sumpfiger Gegend, am oberen Faun, einem in Mangrove verlaufenden Bache, welcher in der Massimato bei Pasahari, an der Nordküste von Wahaai, mündet. An dem betreffenden Orte waren die Hügel $\frac{1}{2}$ — $\frac{3}{4}$ m. hoch und so dicht aneinandergereiht, dass sie das Gehen sehr erschwerten”.

NOTE XLV.

DESCRIPTIONS OF EARTHWORMS.

BY

Dr. R. HORST.

VII.

On Malayan Earthworms.

(Plate 10).

The earthworms, described in the present paper, are for the greater part collected by Dr. H. ten Kate, during his journey in the Malay Archipelago in 1891, in the isles of Flores, Timor, Samao, Groot-Bastaard and Soemba. I added the description of some other ones from Java, Sumatra and Borneo, for which I am indebted to the kindness of dr. Vorderman, dr. J. F. van Bemmelen, dr. J. G. Boerlage, dr. J. Bosscha en dr. Hagen. As could be expected, a great number of those worms belong to the genus *Perichaeta*. Though the discrimination of the species of this large genus is a very difficult task, I undertook to add seven new species to it, bringing the total number of Malayan *Perichaeta*-species up to thirty-three.

Perichaeta falcata n. sp.

Two specimens, collected by dr. ten Kate at Sikka in East Flores.

A rather thick, stout worm, of a yellowish brown colour. The largest specimen measures about 120 mm. in length. The circles of setae are disposed along a distinct,

Notes from the Leyden Museum, Vol. XV.

whitish ridge. On the clitellum neither intersegmental grooves nor setae are visible. Segments IX—XIII have a great longitudinal diameter, a third longer than that of the foregoing segments.

The rectangular prostomium extends back over the half of the buccal segment.

The spermathecal pores are distinct, semilunar fissures, situated in the inter-segmental grooves VII/VIII and VIII/IX, on each side of the belly.

The oviducal pore is situated upon a white area in segment XIV.

The male pores lie upon a large, transverse, oval papilla, extending forward and backward till segment XVII and and XIX. Dorsal pores are only recognizable behind the clitellum. There are about 60 setae on the segments in front of the clitellum.

The 8th, 9th and 10th septa are absent. The gizzard occupies segments IX and X; the intestinal coeca of segment XXVI are conical, moderately developed. Two pairs of spermathecae in segments VIII and IX; each of them (fig. 1) consists of a broad, oval pouch with a short, wide duct and of a thick, falcate diverticulum, that is nearly as long as the pouch, the diverticulum communicates with the main pouch by a short and narrow, S-like bended duct. The diverticulum of the anterior spermatheca sometimes lies in front of the septum, in segment VII.

The prostate is a highly lobulated gland, opening on the exterior by a muscular duct, as usually bent upon itself and provided with a dilated sac at its extremity.

Though already nine species of *Perichaeta*, furnished with two pairs of spermathecae, have been described from the Malay Archipelago, our specimens could not be identified with one of them.

? *Perichaeta sangirensis* Michaelsen.

One specimen, collected by dr. ten Kate at Sikka in East Flores.

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Among the *Perichaeta*-specimens from Flores there is one individual, showing only two spermathecal pores in the intersegmental groove VII/VIII. It is a slender worm, tapering posteriorly, and measuring 140 mm. in length; in the middle region of the body the intestinal canal is visible through the transparent body-wall.

The cephalic lobe is distinct, extending over two thirds of the buccal segment.

The first dorsal pore is visible in the groove between segments XI and XII.

The spermathecae occupy segment VII; they consist (fig. 2) of a long pyriform sac, provided with a short and wide excretory duct; a small, globular diverticulum communicates by a short and narrow tube with the main pouch.

The prostata is divided by a deep fissure in two halves, which consists each of numerous small lobes, separated from each other by shallow grooves. On the segments in front of the clitellum about 40 setae can be counted.

This specimen shows no resemblance to another *Perichaeta*-species from Flores, described by myself in an earlier paper ¹⁾; perhaps it will be identical with *P. sanguirensis* Mich ²⁾.

Perichaeta posthuma Vaillant.

Eight specimens, collected by dr. ten Kate in the island Groot-Bastaard.

Perichaeta sp.

One specimen, collected by dr. ten Kate in the island Groot-Bastaard.

Besides the specimens of *P. posthuma*, dr. ten Kate collected in the island Groot-Bastaard another earthworm, belonging also to the genus *Perichaeta*; unfortunately this

1) Earthworms from the Malay Archipelago; Max Weber, Zoolog. Ergebnisse einer Reise in Niederl. Ost-Indien, Bd. II, 1892, p. 70, pl. III, fig. 28.

2) Jahrbuch Hamburg. Wissensch. Anstalte, VIII, 1891, p. 36.

specimen is badly preserved. It is a rather slender worm, measuring about 90 mm. in length. The buccal region of the oesophagus is everted, therefore the cephalic lobe could not be recognized. The clitellum is distinct, without setae.

The male generative pores are situated upon distinct papillae; there are 10 setae between them. On the segments XIX, XX and XXI a pair of cub-shaped papillae are visible, corresponding to the line of the male pores. External orifices of spermathecae could not be recognized; neither was there internally a trace of these organs to be found. The internal structure is as usually. Perhaps this specimen must be referred to *P. Forbesii* Bedd.¹⁾; however this species also possesses papillae on segment XVIII.

Perichaeta variabilis n. sp.

Eight specimens, collected by dr. ten Kate in the north of the island Soemba.

A rather thick, stout worm, with a cylindrical body of a yellow-brown colour. The length of the largest specimen is about 160 mm. The prostomium extends back till the half of the buccal segment. The clitellum is distinct, showing neither setae nor intersegmental grooves. The setae are arranged in a continuous circle, only interrupted in the median dorsal line; on the segments in front of and behind the clitellum about 54 of them are visible, situated upon a prominent ridge.

There are no copulatory papillae. Two pairs of spermathecal pores are situated laterally, in the intersegmental grooves VII/VIII and VIII/IX; an unpaired oviducal pore on segment XIV.

The male pores on segment XVIII, situated upon distinct papillae, lie in the line of the seventh seta from the ventral median line; eight setae could be counted between both pores. First dorsal pore behind the clitellum.

These worms present a singular variability in the structure

1) Proc. Zoolog. Society, 1890, p. 65, pl. IV, fig. 5.

of their genital organs. The spermatheca (fig. 3) consists of a large globular pouch and a long diverticulum, showing several windings like a corkscrew; however often this diverticulum is poorly developed, extending scarcely till the half of the pouch and is wound not at all or hardly so (fig. 3a). In four specimens, which I examined, both spermathecae of the dextral side presented such a faintly developed diverticulum; however it was also observed at the left side.

The prostata also shows a divergency from the usual structure; it is a small, faintly lobed gland, of a rudimentary appearance, extending forward and backward not much beyond its muscular duct. I thought first to have to do with a species, which perhaps was allied with the Japanese *Perichaeta*¹⁾, described by Beddard, which have the prostata entirely wanting; however in one of the four specimens, which I examined, I found at the ventral side a well-developed prostata, extending as usually over three segments. It may be presumed therefore, that the other worms were not in a state of sexual maturity.

In the other parts of its organisation no peculiarities could be observed; the eighth and ninth septa are absent, those of segments XI, XII and XIII are rather thick.

A bell-shaped gizzard occupies segments IX and X; a long, digitiform coecum lies in segment XXVI and extends forward over five segments.

There are two pairs of tongue-shaped vesiculae seminales in segments XI and XII, connected with each other and including the ciliated funnels. A large fan-shaped ovary is attached at the anterior septum of segment XIII.

The specimens could not be referred to one of the Malayan *Perichaeta*-species already known, though three species from this region are described, which possess also two pairs of spermathecae with a long, wound diverticulum i. e. *P. musica* Horst (Java), *P. longa* Mich. (Sumatra) and

1) Zoolog. Jahrbücher, Systematik, Bd. VI, 1893, p. 755.

P. fasciata Rosa (Engano). *P. longa*, as stated by Michaelsen, much resembles *P. musica* and is only distinguished by the shape of the male pores and the smaller number of setae; perhaps both species are identical, for the shape of the male pores appears to me not to be constant and as already stated in my earlier paper, in small specimens of *P. musica* the number of setae amounts only to 60 or 70. Our species from Soemba appears to be distinguished from *P. fasciata* and *P. musica* as well by a smaller number of setae as by a different situation of the male pores.

Perichaeta Tenkatei n. sp.

Three specimens collected by Dr. ten Kate at Wamga-poe in the North of the island Soemba.

Besides the preceding species three other *Perichaetae* were collected in Soemba, which are distinguished by their more slender appearance, tapering anteriorly and posteriorly.

The body measures 85 mm. in length; the number of segments is about 100. The clitellum shows distinct dorsal pores, not visible in the preceding species; the first dorsal pore lies in the intersegmental groove XI/XII. The prostomium extends back over the half of the buccal segment. The setae are arranged in a continuous row, upon a distinct ridge; there are about 50 of them on the segments in the vicinity of the clitellum, but none on the clitellum itself.

Two pairs of spermathecal pores lie at the ventral side of the body in the intersegmental grooves VII/VIII and VIII/IX. The male pores, situated on large papillae, present themselves as semilunar fissures, surrounded by a border, the half of which is crenulated, while the other half forms a lid, that covers the pore, like with *P. capensis* (*operculata* Rosa).¹⁾

The spermathecae (fig. 4) strike the eye by the large-

1) Exotische Terricolen; Ann. K. K. Naturhist. Hofmuseums, Wien, Bd. VI, 1891, pl. XIV, fig. 6.

ness of their diverticulum, which occupies a great portion of the segment; each of them consists of a thin, folded sac, with a short duct, and of a large U-shaped, muscular diverticulum, which is much longer than the main sac and near its distal end suddenly narrows and terminates in a globular vesicle.

The eight and ninth segments are absent. The gizzard, occupying segments IX and X, is bell-shaped, not very long. The intestinal coeca of segment XXVI, are not very large, extending over four segments. Two pairs of large seminal vesicles occupy segments XI and XII. In segment XIII, attached to the anterior septum above each ovary, a comma-shaped body was observed; perhaps they represent a second pair of receptacula ovarum, as found by Beddard in *P. mauritiana*.¹⁾

Perichaeta capensis Horst.²⁾

Specimens were collected in Timor by Dr. ten Kate, at Buitenzorg by Dr. Boerlage and at Tjibodas by Dr. van Bemmelen.

Perichaeta urceolata n. sp.

Ten specimens were collected by Dr. Vorderman in the Lampongs (Sumatra).

A slender worm, tapering at its anterior and posterior extremity, of a pale yellow-brown colour, with the zones of setae whitish. The largest specimen measures 110 mm. in length. The cephalic lobe reaches back till the half of the buccal segment, which is small. The clitellum is distinct, devoid of setae.

The spermathecal pores are represented by a pair of distinct fissures, situated laterally in the intersegmental groove V/VI.

A single oviducal pore on a white area. The male pores are plain fissures, not surrounded by a wall, situated in the

1) Proc. Zool. Society, 1892, p. 170, pl. X, fig. 5.

2) Loc. cit. p. 62, pl. III, figs. 24—26.

series of the 7th seta; there are 12 setae between both pores.

The circles of bristles are continuous, except in the dorsal median line; there are 36 à 40 of them upon each segment.

The spermathecae (fig. 5), situated in segment VI, consist of a rather large, urceolate pouch and of a bended, tubular diverticulum, that reaches till about two thirds of the main pouch and before opening in it suddenly narrows. I found the diverticulum, as usually, entirely filled with sperma, whereas the pouch contained sand and other strange material, giving it a blackish colour.

In one specimen another pair of spermathecae, smaller than the anterior ones, was observed in segment VII, opening in the intersegmental groove VI/VII.

As to its internal structure this species agrees with other *Perichaetae*; a well-developed prostata is present, provided with a S-like bended duct, terminating in a dilated sac. In some specimens this dilated part is protruded to the exterior. There are in segments XI and XII two pairs of large, tongue-shaped seminal vesicles, each with a hooked appendage at the distal extremity. Long intestinal coeca occur in segment XXVI.

Several *Perichaeta*-species, provided with only a single pair of spermathecae, are already known, as well from the Malay Archipelago (*P. quadragenaria* Perr., *racemosa* Rosa, *P. sangirensis* Mich., *P. minima* Horst, *P. sp.* from Flores) as from other isles in the Indian and Pacific Ocean (*P. novarae* Rosa, *P. vitiensis* Bedd., *P. taprobanae* Bedd., *P. pulchra* Mich.); but with none of these species the *Perichaetae* from the Lampongs could be identified, because all those species have not only spermathecae of a different shape, but their spermathecal pores lie also more backward. With *P. minima* those pores are situated on segment VII, with *P. racemosa* in the intersegmental groove VIII/IX and with the other ones in the groove between segment VII and VIII.

Perichaeta Martensi Michaelsen.

A single specimen from the Lampongs (Sumatra), collected by Dr. Vorderman.

Among the specimens of *P. urceolata* I met with an individual, provided with four pairs of spermathecae, which agree in their structure with the spermathecae of *P. Martensi* (from Banka), as described and figured by Michaelsen ¹⁾. The characteristic of those organs is, that the slender, club-shaped diverticulum possesses another small, globular, sessile diverticulum; in our specimen the greater part of spermathecae showed this character, however in three of them it was absent. It seems to me liable to question whether *P. Martensi* must not be considered a variety of *P. indica*, for in my paper on Sumatra-earthworms ²⁾ I pointed out, that in some specimens of this species (from Soepajang) the tube of the diverticulum in the middle of its length possessed another tubular appendage.

Perichaeta Bosschae n. sp.

A single specimen, collected by dr. Bosscha in Sambas, Borneo.

I received two *Perichaeta*'s from Borneo, but one of them was not in a state of sexual maturity and could therefore not be identified; the other one appears to me to belong to a new species. It is a rather large worm, dark-brown over the total surface of the body, with white circles of setae; its length is 170 mm. The number of segments is 125. The cephalic lobe distinct, extending back over two-thirds of the buccal segment. A dark-coloured clitellum, without setae. The male pores have the shape of fissures, only surrounded by a faint wall; the oviducal pore is single. Four pairs of spermathecal pores

1) Archiv für Naturgesch. 1892, p. 34, pl. XIII, fig. 20.

2) Midden-Sumatra, reizen en onderzoek. der Sumatra-expeditie, 1877—79, Natuurl. Hist., Dl. IV, 2, Pl. I, fig. 1b.

are situated laterally in the intersegmental grooves V/VI, VI/VII, VII/VIII and VIII/IX. The first dorsal pore lies in the groove between segments XII and XIII. There are no copulatory papillae. Each spermatheca (fig. 6) consists of a rather large, oval sac, with a distinct, tubular duct and a small oblong, pyriform diverticulum, as long as the excretory duct. The prostata is a fan-shaped, compact (not lobed) gland, with a short, thick muscular duct. Of the intestinal coeca in segment XXVI only that of the left side could be observed; it is a rather long appendage, faintly lobed at the external side of its inferior half, like in *P. mandhorensis* Mich. ¹⁾. The remaining structure shows no peculiarities.

This specimen could not be referred to one of the known Malayan species, which are also provided with four pairs of spermathecae. In *P. neoguineensis* Mich. whose spermathecae are also provided with a small diverticulum, the spermathecal pores at the ventral side are situated so next to each other, that the distance between both spermathecae of the same segment is smaller than that between the spermathecae of two succeeding segments; moreover the intestinal coeca appear to be absent. *P. enganensis* Rosa and *P. Modiglianii* Rosa have their spermathecae provided with a long diverticulum, while in *P. Martensi* Mich. and *P. indica* Horst these organs have a totally different shape. *P. posthuma* Vaill. and *P. Vordermanni* Horst possess copulatory papillae in the vicinity of the male pores.

Perichaeta longa Michaelsen.

A single specimen from Tjibodas (Java), collected by Dr. van Bemmelen.

A mutilated worm, only 65 mm. long, wanting its posterior end, appears to be referable to Michaelsen's *P.*

1) loc. cit. Pl. XIII, fig. 19.

longa, though the dimensions of his specimen are much greater. The spermathecae agree very well with Michaelson's figures, only their blind end has a more dilated, tongue-shaped appearance.

Perichaeta tjibodae n. sp.

Two specimens from Tjibodas (Java), collected by Dr. van Bemmelen.

Among the worms, collected at Tjibodas, there are two specimens, which, though resembling in many respects *P. capensis* Horst (— *operculata* Rosa), cannot, as I believe, be identified with that species. The smallest example has a length of about 50 mm.; the largest one is incomplete. The colour is olive-brown; the anterior end of the body with the clitellum is greyish.

The cephalic lobe with a broad appendix extending back till the half of the buccal segment. Clitellum distinct, without setae. Two pairs of spermathecal pores, situated entirely ventrally, in the intersegmental grooves VII/VIII and VIII/IX; the distance between the pores of one segment hardly $1\frac{1}{2}$ times that between the pores of two succeeding segments. The pores of a pair are connected together by an indistinct, transverse, glandular area (fig. 7). Oviducal pore single on segment XIV; male pores on segment XVIII, triradiate, as the mouth of a leech, separated by a deepened area, extending over the segment in front and that behind. Setae in a continuous ring, 44 in number. Eight setae between the male pores. No copulatory papillae. The spermathecae (fig. 7a) are very large; the first pair lie in segment VIII, the second one in segments VIII and IX, extending along the total length of the gizzard. Each spermatheca consists of a large, globular sac with a short excretory duct and of a tubular diverticulum, terminating in a small, oval vesicle; this diverticulum is curved like a horn and extends along the superior half of the main sac. The sac shows a yel-

lowish colour and is of a hard consistency, as if its wall contained chitine; however on traverse sections it appears to have a normal structure and its hardness to be only due to a secretion, probably coagulated by the influence of alcohol. The diverticulum possesses a thick, muscular, folded wall.

The prostata is a large gland, consisting of numerous lobes and extending over segments XVI—XXII; its excretory duct is longer than it is ordinarily the case with *Perichaeta* and therefore it is curved, as shown in fig. 7*b*; the first part of the duct, in which the vas deferens opens, near its origine from the prostate, is membranaceous; next to the ventral median line, before turning back, it passes into the muscular part, which terminates in a dilated sac. The internal structure as usually.

Two pairs of tongue-shaped seminal vesicles in segments XI and XII. There is a bell-shaped gizzard in segments VIII and IX; the short conical, intestinal coeca of segment XXVI extend over four segments. Three pairs of abdominal hearts occupy segments XI, XII and XIII.

In the shape of the spermathecae and the ventral position of their external orifices this worm much agrees with *P. operculata* Rosa (— *capensis* Horst). However according to Rosa's description this species is distinguished by its small cephalic lobe, without posterior appendix, which is coalesced with the buccal segment; moreover its prostata-duct is short and straight.

Perichaeta inflata n. sp.

A single specimen from Tjibodas, collected by Dr. van Bemmelen.

A small worm, measuring only 55 mm. in length. Its body tapering at the anterior and posterior end, is of a yellowish brown colour; the clitellum is darker. A rather large, rectangular prostomium extends back till the half of the buccal segment.

Two pairs of spermathecal pores in the intersegmental

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grooves VII/VIII and VIII/IX; the male pores are represented by fissures, with a crenulated border and surrounded by a glandular wall. There are no copulatory papillae.

The setae are arranged in a continuous circle, upon a prominent ridge of white colour; no setae on the clitellum. Two pairs of spermathecae; each of them (fig. 8) consists of a not very large, globular sac, with short duct and of a diverticulum, represented by a long, slender, twisted tube, which terminates in a small pyriform vesicle. Before terminating in this vesicle the tube shows a large, oblong dilatation. The prostata is a rather large gland, consisting of numerous lobes, and opening on the exterior by a straight, narrow, membranaceous duct, which terminates in a dilated sac.

This species appears to be allied to *P. fasciata* Rosa from Engano.

Perichaeta musica Horst.

A single specimen from the Gedeh (Java), collected by Dr. Vorderman.

This specimen has a singular appearance, being rather stout but very short. The diameter of the body in front of the clitellum is 17 mm.; its length is only 21 cm. The number of segments is about 65.

Pontoscolex corethrurus F. Müller.

Several specimens from the Lampongs (Sumatra), collected by Dr. Vorderman.

Benhamia malayana Horst.

Two specimens from Poeloe Samao, by Dr. ten Kate; one specimen from Tandjong Morawa (Sumatra) by Dr. Hagen.

Benhamia floresiana Horst.

Two specimens from Amarassi in Timor, collected by Dr. ten Kate.

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Benhamia Annae Horst.

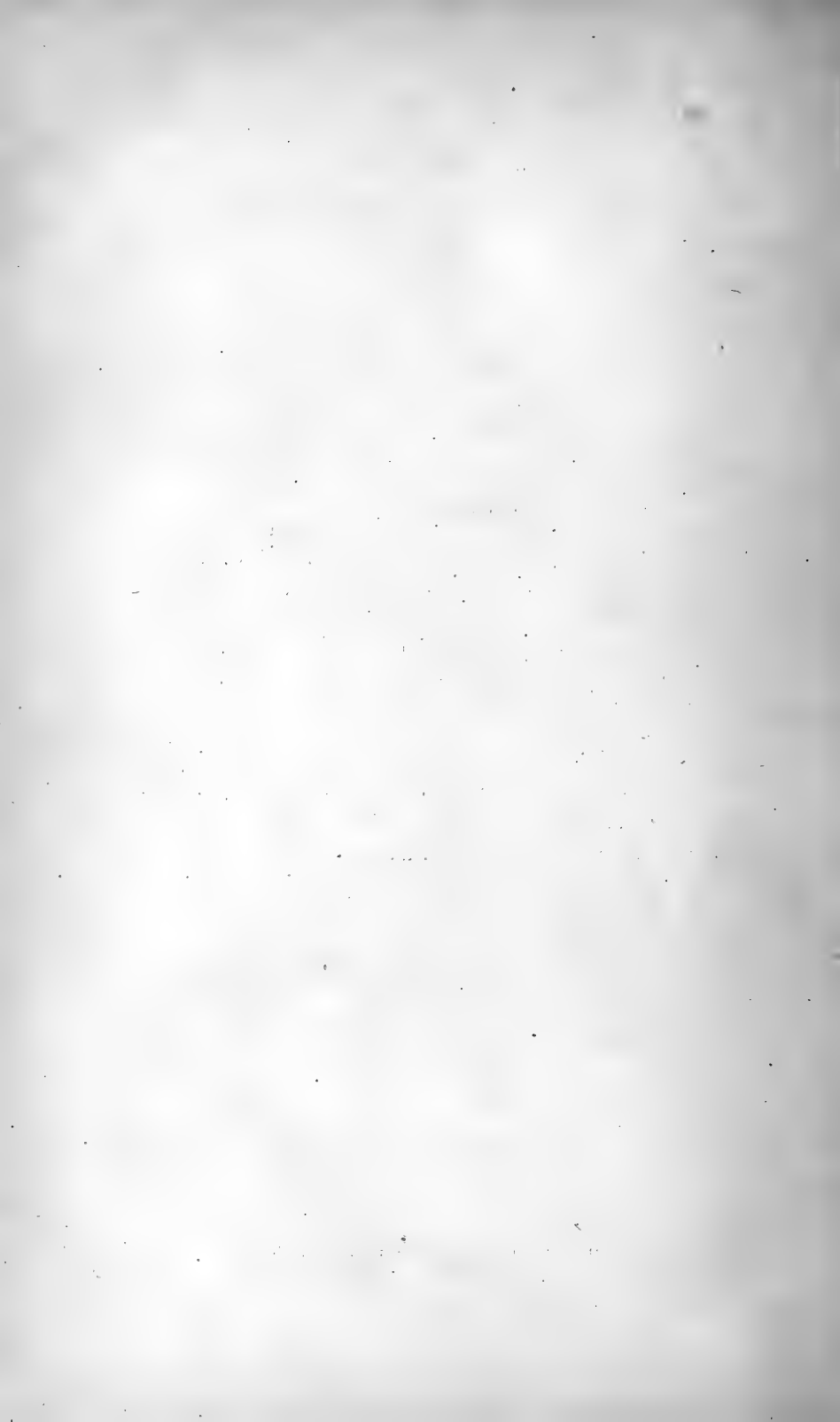
Three specimens from Buitenzorg, collected by Dr. van Bemmelen.

EXPLANATION

OF

Plate 10.

- Fig. 1. *Perichaeta falcata*: Spermatheca. $\times 11$ diam.
Fig. 2. ?*Perichaeta sangirensis*: Spermatheca. $\times 15$ diam.
Fig. 3. *Perichaeta variabilis*: Spermatheca of the left side;
3a spermatheca of the right side. $\times 8$ diam.
Fig. 4. *Perichaeta Tenkatei*: Spermatheca. $\times 8$ diam.
Fig. 5. *Perichaeta urceolata*: Spermatheca. $\times 8$ diam.
Fig. 6. *Perichaeta Bosschae*: Spermatheca. $\times 10$ diam.
Fig. 7. *Perichaeta tjibodae*: Ventral view of segments
VII—IX and XIV—XIX; 7a. Spermatheca; 7b.
Prostata. $\times 8$ diam.
Fig. 8. *Perichaeta inflata*: Spermatheca. $\times 12$ diam.



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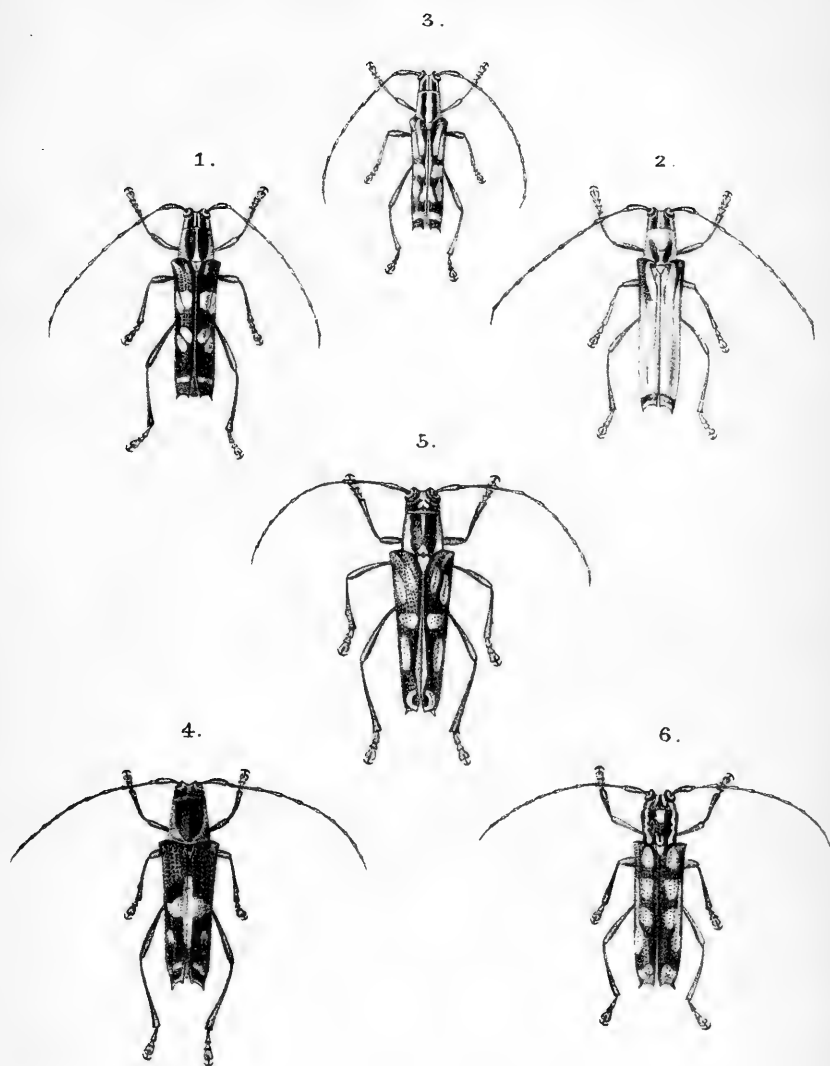
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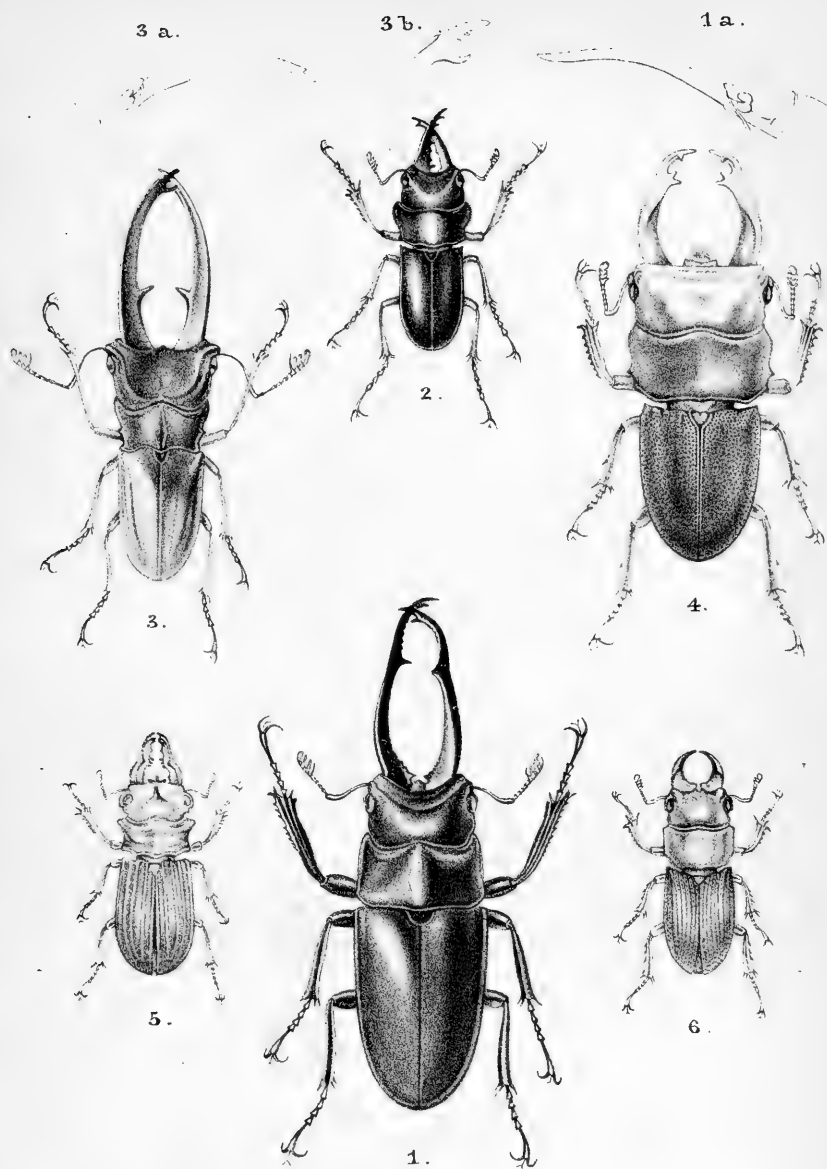


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Dr. H. W. de Graaf lith.

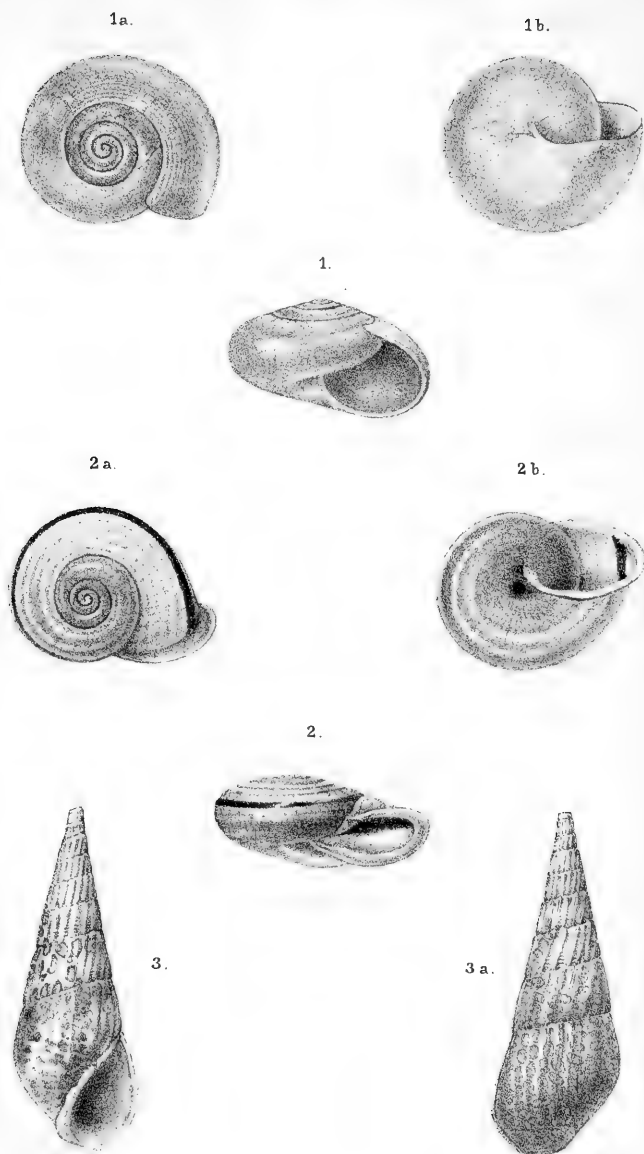
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- | | |
|-------------------------------------|---------------------------------|
| 1. <i>Glenea bisbiguttata</i> Rits. | 4. <i>Glenea Hasselti</i> Rits. |
| 2. „ <i>nivea</i> Rits. | 5. „ <i>florensis</i> Rits. |
| 3. „ <i>similis</i> Rits. | 6. „ <i>Oberthuri</i> Rits. |



1, 2, 3. W. F. Jacobs
4, 5, 6. Dr. H. W. de Graaf } del. Dr. H. W. de Graaf lith. P. W. M. Trap impr.

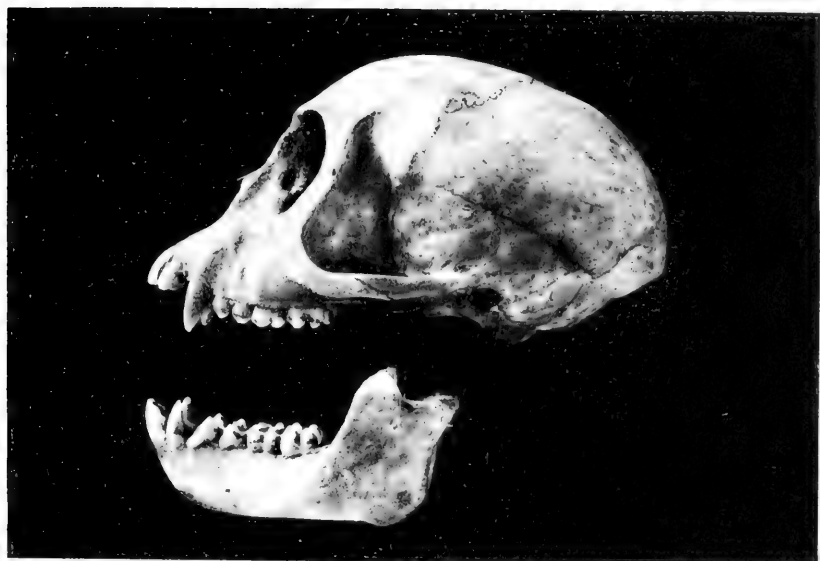
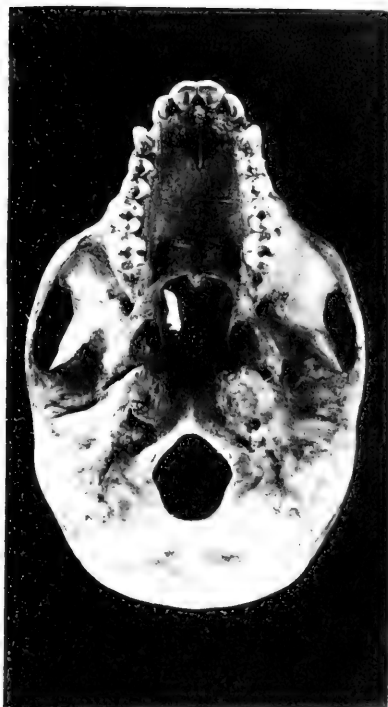
- | | |
|---|--|
| 1. <i>Prosopocoelus Pasteuri</i> Rits. | 4. <i>Eurytrachelus Hansteini</i> Alb. |
| 2. " <i>tarsalis</i> Rits. | 5. <i>Gnaphaloryx tricuspis</i> Rits. |
| 3. <i>Cyclommatus canaliculatus</i> Rits. | 6. <i>Aegus Leeuweni</i> Rits. |



Dr. H. W. de Graaf del.

P. W. M. Trap impr.

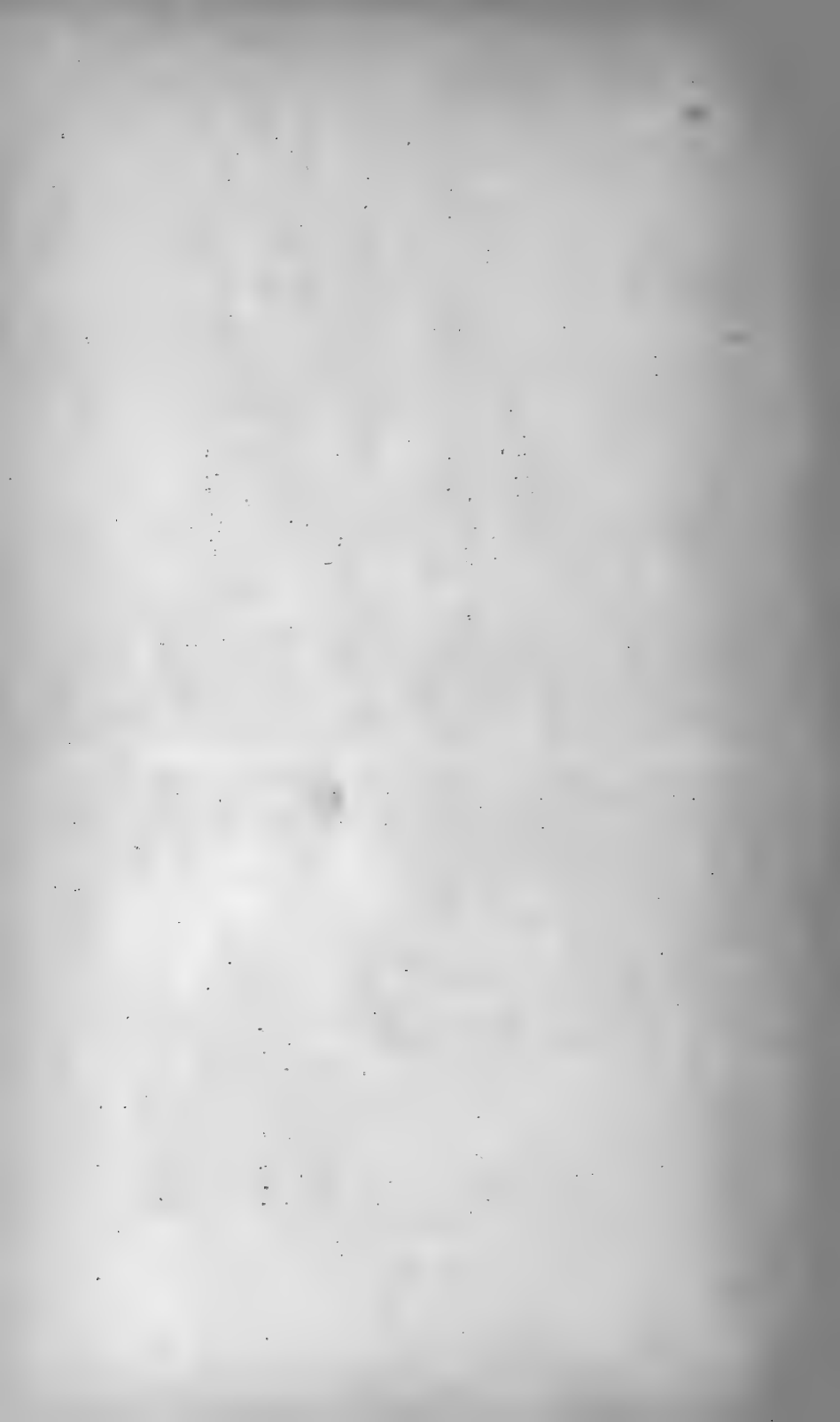
1. *Macrochlamys Martini* Schepm. 2. *Helix zonaria*, var. *Martini* Schepm.
3. *Melania clavus* Lam.

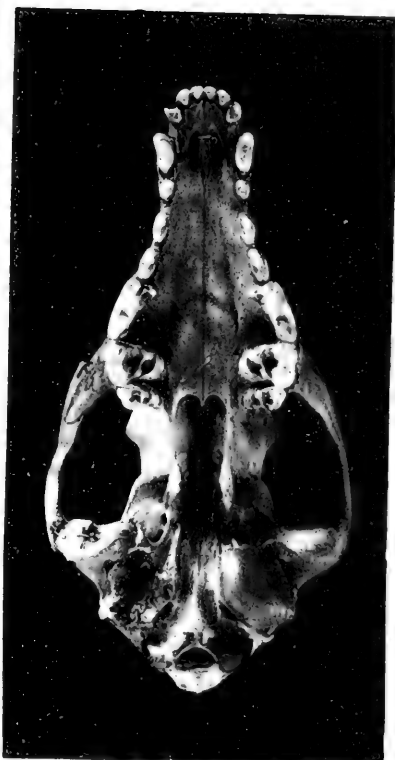
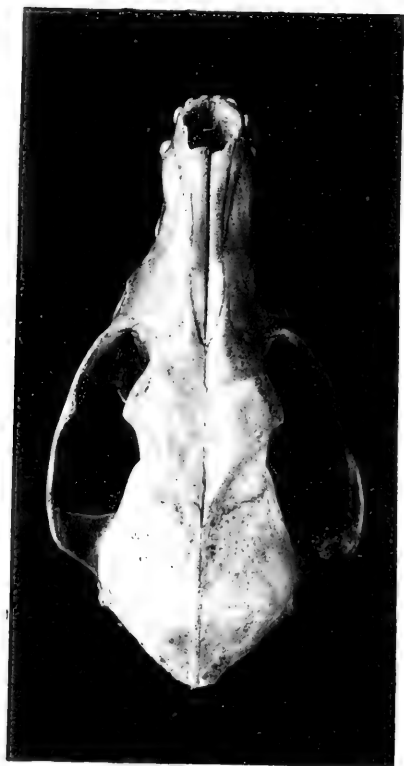


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Lichtdruk van Emrik & Binger, Haarlem.

Cercopithecus cynosurus Scopoli. $\times \frac{4}{5}$.

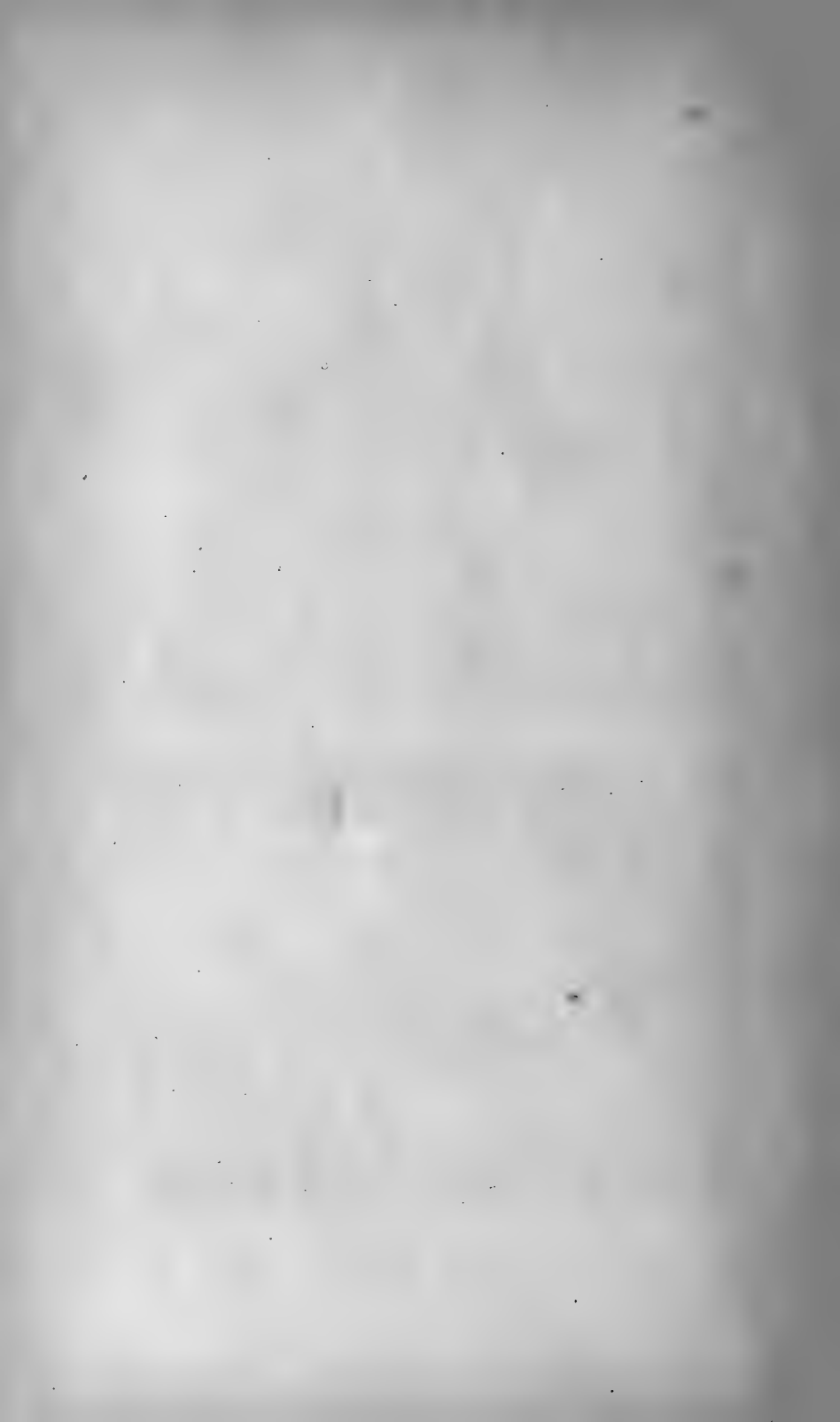




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Vulpes mesomelas Schreber. $\times 1\frac{1}{2}$.



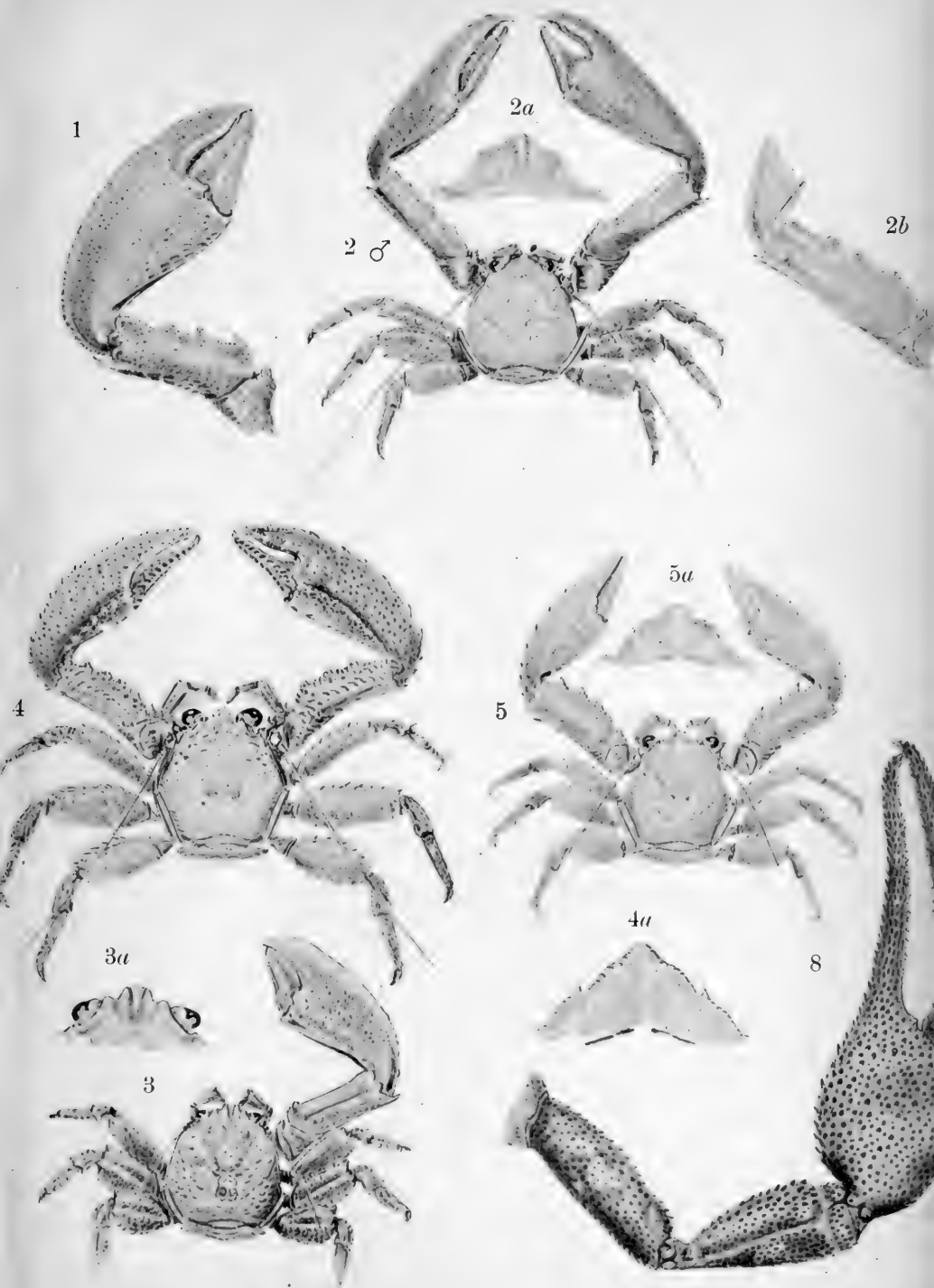


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Genetta felina *Thunberg*. $\times \frac{1}{1}$.





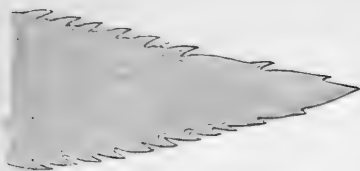
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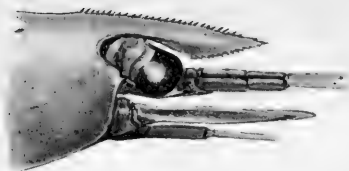
1. *Petrolisthes inermis* Heller.
2. *Petrolisthes Tenkatei* de Man.
3. *Petrolisthes indicus* de Man.

4. *Petrolisthes barbatus* Heller.
5. *Petrolisthes carinipes* Heller.
8. *Palaemon lepidactyloides* de Man.

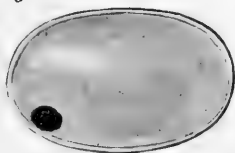
7b



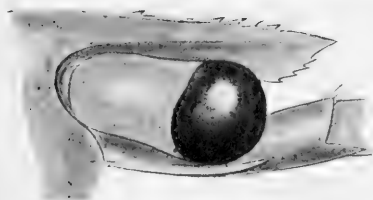
7 ♀



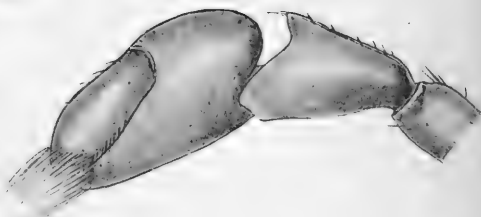
6g



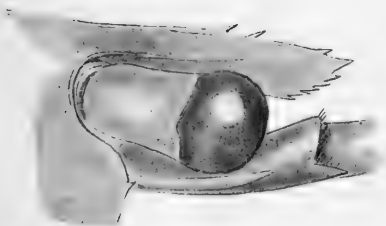
6a



6d



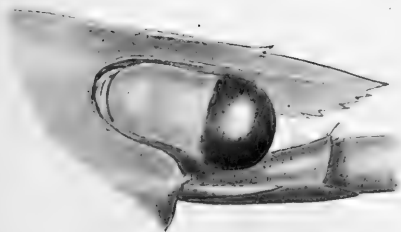
6b



6e

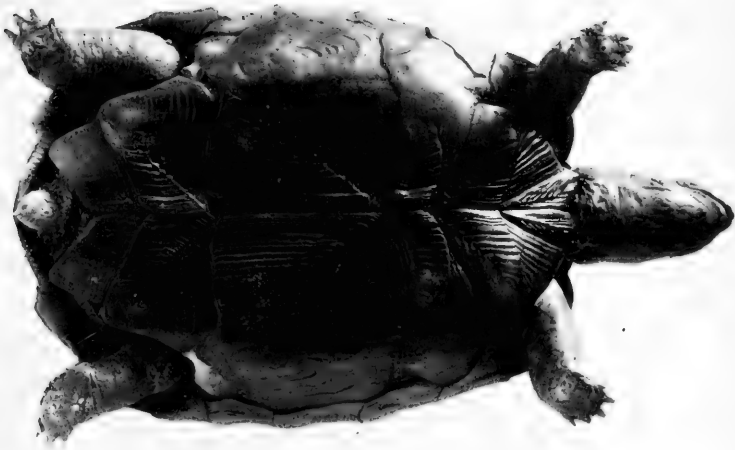
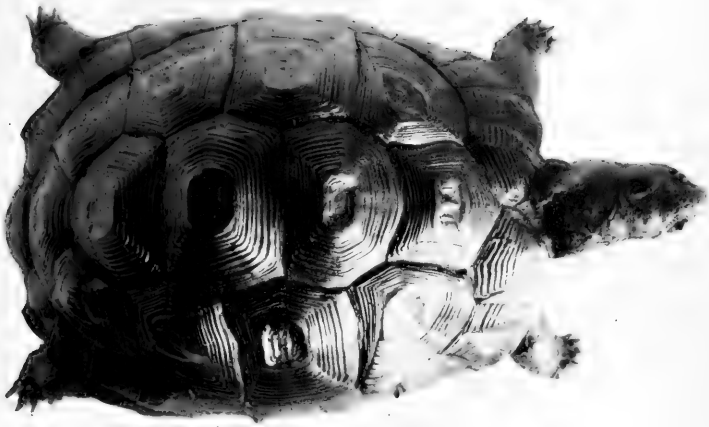


6c



6f





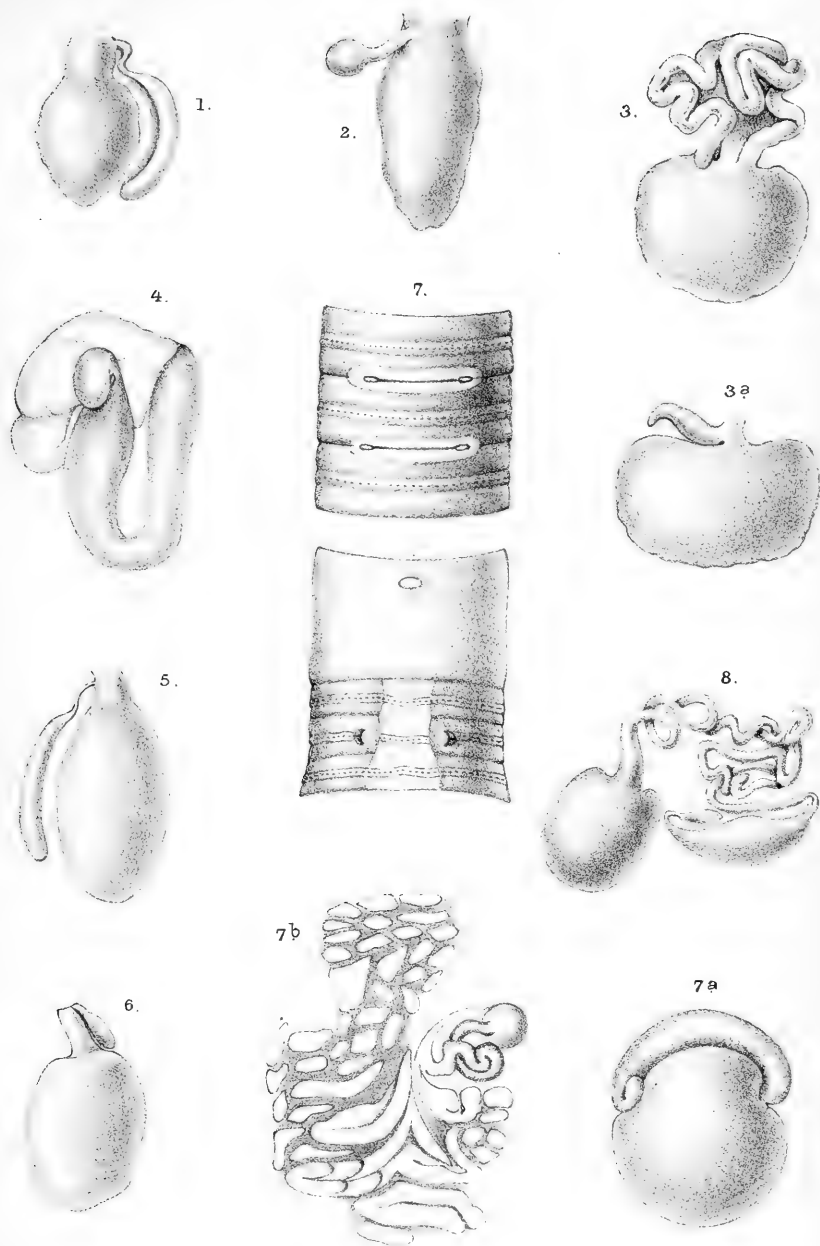
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Testudo Strauchi v L d J.

$\frac{1}{2}$





Dr. R. Horst ad nat. del.

A. J. J. Wendel lith.

P. W. M. Trap impr.

1. *Perichaeta falcata* Horst.

2. ? " *sangirensis* Mich.

3. " *variabilis* Horst.

4. " *Tenkatei* Horst.

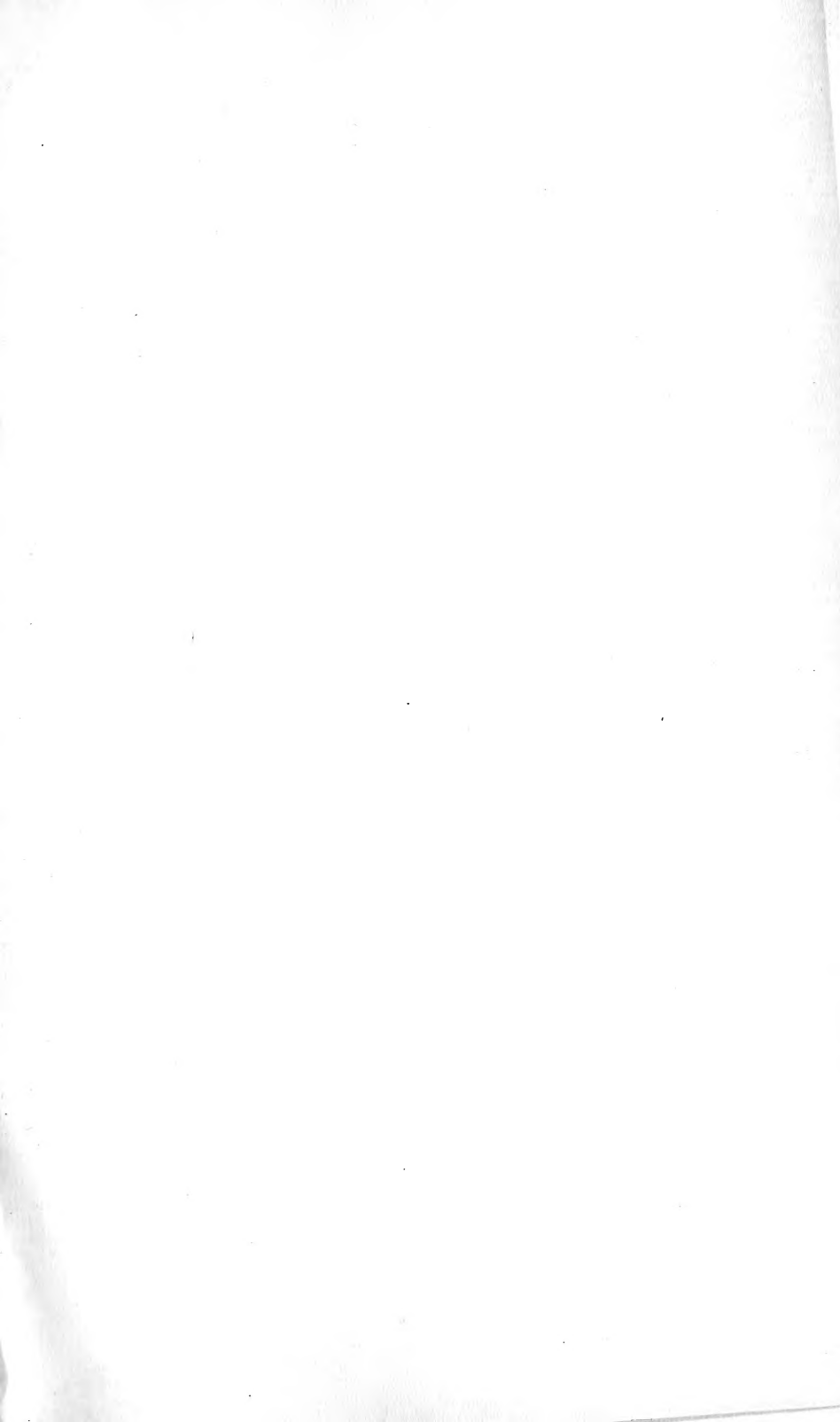
5. *Perichaeta urceolata* Horst.

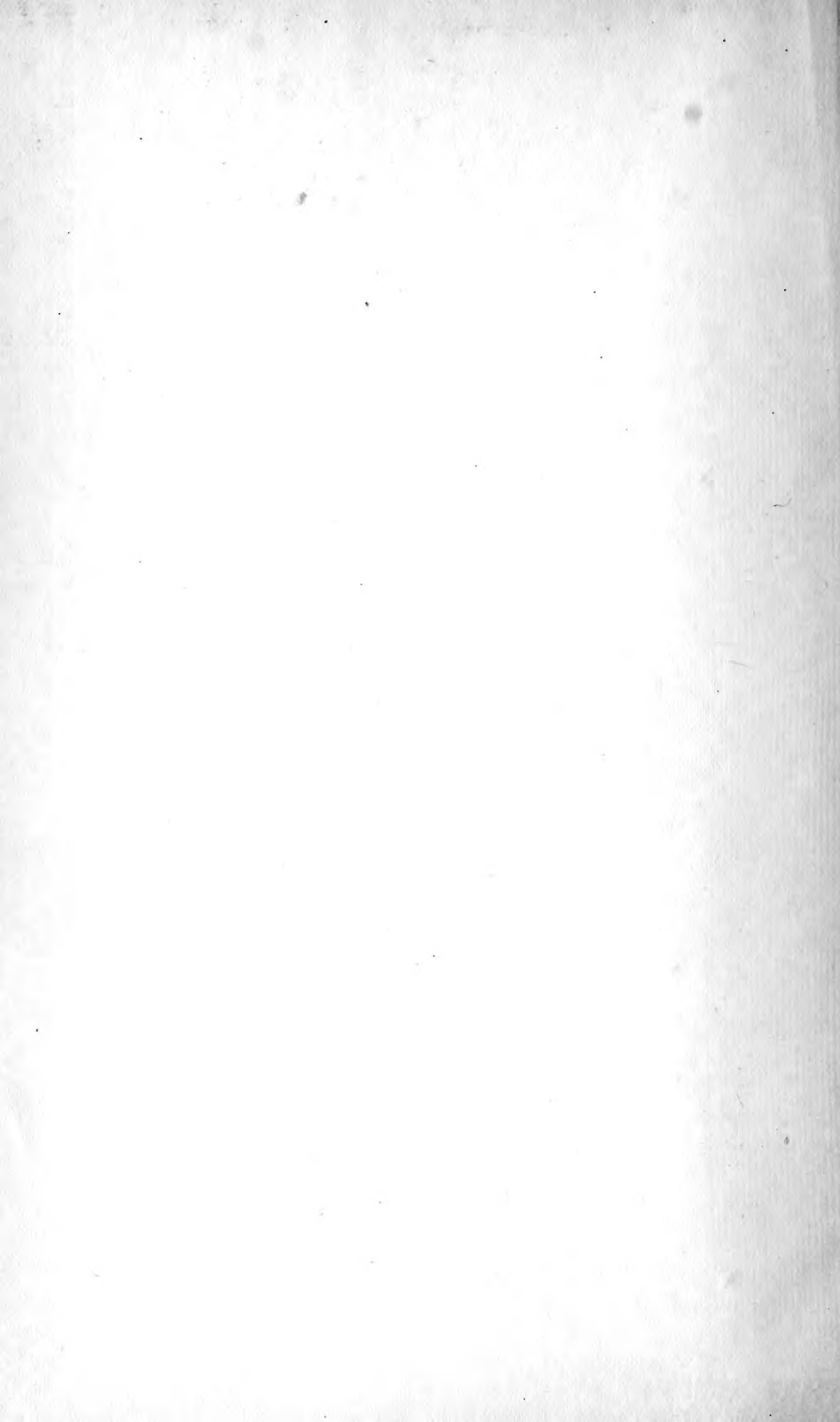
6. " *Bosschae* Horst.

7. " *tjibodae* Horst.

8. " *inflata* Horst.







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